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ABSTRACT

Designed as an aid for staff at Gateway Technical Institute, this manual provides step-by-step instructions for the implementation of competency-based education (CBE) in occupational and general education programs. After presenting a CBE model and listing the functions of Gateway's CBE curriculum advisors, the manual details procedures for each of the sequential steps in Gateway's CBE implementation process: (1) developing a general statement of philosophy for each program area; (2) developing a statement of goals that articulate the desired outcomes for each program; (3) producing a descriptive list of occupations for which the program prepares students; (4) preparing a mobility chart delineating the common career paths followed by persons who enter these occupations; (5) involving faculty, program curriculum committees, and advisory committees in the writing, assessment, and validation of broad competency statements for each program; (6) writing, formatting, and approving modules which, for each competency statement, detail the value of the competency, instructional content, desired learning outcomes, methods of assessment, learning activities, and resource materials; (7) revising the modules when needed; (8) writing specific competencies to be incorporated in individualized learning packages; and (9) writing and formatting certificates of competence. Forms, procedural flow charts, sample modules, and other aids are included throughout the manual. (JP)

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CBE IMPLEMENTATION MANUAL

For

GATEWAY TECHNICAL INSTITUTE

Developed by:
Gateway Competency Based Education Steering Committee
Revised 1981

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CBE IMPLEMENTATION MANUAL

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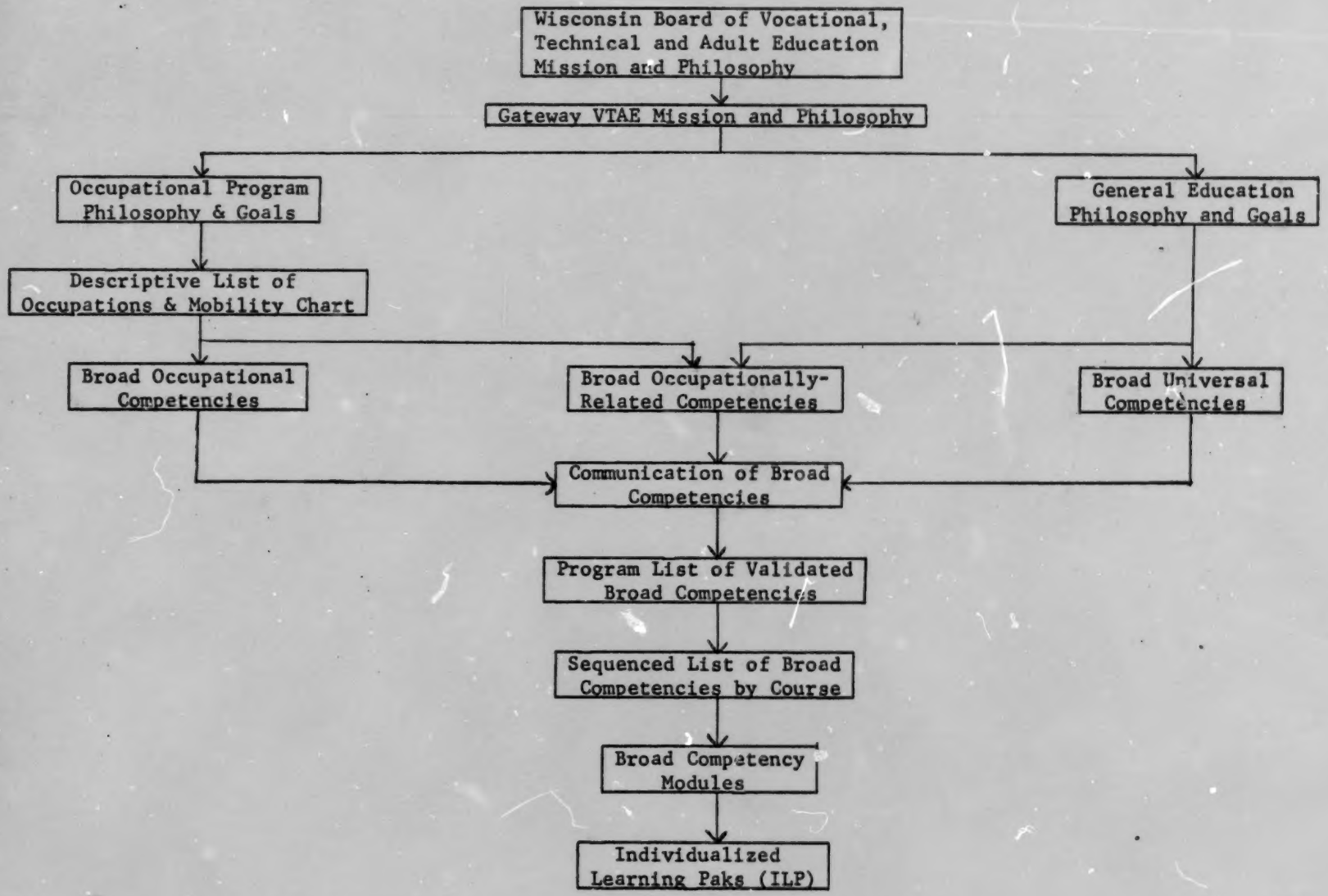
GATEWAY CBE
IMPLEMENTATION MANUAL

Introduction

The Implementation Manual is designed to provide Gateway staff with "how to" instructions on the development of CBE for occupational programs and general education. It expands the Curriculum Design for Gateway by providing procedures and examples necessary to implement Competency Based Education.

The original Implementation Manual was begun by the CBE Steering Committee in 1976. With each stage of CBE development, a new section of the Manual was issued to the Gateway staff. In 1981, this revision for the Manual was undertaken to more accurately reflect the process of CBE development as it has evolved at Gateway.

GATEWAY COMPETENCY BASED EDUCATION MODEL


Wisconsin Board of Vocational, Technical and Adult Education Mission and Philosophy
Gateway VTAE Mission and Philosophy
Occupational Program Philosophy & Goals
General Education Philosophy and Goals
Descriptive List of Occupations & Mobility Chart
Broad Occupational Competencies
Broad Occupationally-Related Competencies
Broad Universal Competencies
Communication of Broad Competencies
Program List of Validated Broad Competencies
Sequenced List of Broad Competencies by Course
Broad Competency Modules
Individualized Learning Paks (ILP)

FUNCTION OF THE CBE CURRICULUM ADVISOR

The purpose of the CBE Steering Committee is to provide guidance and assistance to Gateway in implementing a CBE program. To provide this assistance to the instructional programs and general education areas, members of the Steering Committee act as Curriculum Advisors.

To perform the function of a CBE Curriculum Advisor, each advisor should be:

1. well-versed in the concept of Competency Based Education and its design as developed in the Curriculum Design.
2. able to use and demonstrate CBE developmental materials (CBE Implementation Manual).
3. informed of the immediate and long-range goals of CBE as outlined in the Long Range Plan for CBE Implementation.
4. knowledgeable of the level of development of the assigned curriculum committees.

The specific functions that the CBE Curriculum Advisors perform are to:

1. clarify to curriculum committees the CBE Design.
2. clarify goals of CBE Implementation.
3. give in-put to the CBE Steering Committee on CBE development by curriculum committees.
4. provide periodic reports of CBE implementation progress by curriculum committees to department coordinator and curriculum committee chairperson.
5. provide CBE information to curriculum committees specific to their needs.
6. assist curriculum committee chairperson plan curriculum committee meetings dealing with CBE.
7. assist coordinators and curriculum committee chairperson clarify to advisory committees CBE development.
8. advise curriculum committees in the development of elements of the CBE Design, such as:
   a. list of occupational titles
   b. mobility charts
   c. program or general education area philosophy and goals
   d. competencies
   e. module components
9. assist curriculum committees in developing plans for CBE implementation.
10. assist coordinators in motivating curriculum committees to achieve goals of CBE

STATEMENT OF PHILOSOPHY

As highlighted in the A Curriculum Design for Gateway Technical Institute, the first step in the Implementation of CBE is the development of a philosophy for each occupational program and general education area. This philosophy developed by the curriculum committee, provides the basis for all further curriculum development.

DEFINITION

A philosophy includes statements of beliefs, concepts, and attitudes (a point of view, a speculation about the nature of the world around us) that stimulates activity or thought, and determine the atmosphere of learning for accomplishment of goals. The program area philosophy or subject area philosophy should agree with the GTI philosophy and with the philosophy of CBE as stated in the CBE Curriculum Design.

Components of Statement

The following component parts must be included in the philosophy. -These parts can be composed of one or more statements that specifically state the needs, purposes, and beliefs of an occupational program or general education subject area.

Following the definition of each of these three component parts are examples for general education subject areas and occupational programs.

Need Statements

These are statements that reflect the wants and expectations of licensing groups, groups that set professional standards, businesses, industry, and individuals. It should also identify for the subject area or occupational programs why such instruction is useful. The need statements may provide evidence or rationale for the existence of a subject area or occupational program. Such statements may be based upon research, surveys, organizations, graduate follow-up studies, and advisory committees.

The following can be possible sources instructors may use to identify needs:

- Want ads
- Surveys
- Graduate Followup Studies
- Private Agencies
- Changing Technology
- Personal contact
- Advisory Committees
- Graduate Inquiries
- Labor Statistics
- Wisconsin Job Service

Examples:

Occupational area: Based on recent surveys, a need exists for persons able to provide competent health care in private offices, hospitals, clinics, businesses, and institutions.

Subject area: Students need knowledge of this complex society and their place in it so they may be better able to cope with the complex problems of our society.

Purpose Statement

This should be a statement or statements which identify the specific purpose for which a subject area or occupational program prepares individuals. These should be consistent with the needs of the community, business, etc., or may be based on beliefs about human needs. The purpose should reflect knowledges and skills to be developed.

Examples:

Occupational area: The Police Science program is designed to serve a dual purpose: first, as a preparatory program for persons interested in law enforcement, and second, as a training program for persons already engaged in the law enforcement profession.

Subject area: The Social Science subject area has a dual purpose: first, to provide knowledges and attitudes to meet the student's needs for personal growth and development, and second, to provide knowledges and concepts to meet the instructional needs of the occupational programs.

Belief Statements

Belief statements are the values and attitudes of the faculty in a subject area or an occupational program area reflecting their beliefs about the students' learning styles. Belief statements should reflect the needs statements and purpose statements identified in the subject area or occupational program.

The following eight belief statements should be included in writing your philosophy:

Statement of belief in vocational-technical education.

Example--Occupational Program
The training and skills provided by Vocational, Technical and Adult Education enable all individuals to secure initial employment or to advance in their chosen occupations and careers.

Example--Subject Area
All individuals need to develop those knowledges and attitudes basic to technological skills that make them intelligent and productive participants in our society.

Statement about the nature of the subject area, its processes and practice roles.

Example--Occupational Program
The technical nurse practitioner, under the supervision of a more experienced registered nurse, functions as a member of the nursing team in assessing, planning, implementing and evaluating the individual's nursing care. The technical nurse guides and coordinates activities of less skilled nursing personnel.

Example--Subject Area
The Social Science faculty believes the students have a need to understand their rights and duties as citizens of a democratic society.

Statement about the intrinsic value and worth of individuals.

Example--Occupational Program
The Cosmetology faculty believes the dignity and individuality of a person is an inalienable right of all people and must be an overriding concern of the program.

Example--Subject Area
The mathematics faculty believes the individual student is a unique person who has interests and capabilities which should be fostered and developed in constructive ways.

Statement about the balance of skills and general education.

Example--Occupational Program
The Civil Technology faculty believes that it the responsibility to prepare students to be highly competent practitioners utilizing behavioral and natural sciences.

Example--Subject Area
The Social Science faculty believes that there is a need for knowledge that allows the individual to complete an occupational program and to cope with the complex needs of society.

Statement about which learning principles affect or enhance learning.

Example--Occupational Program
The Associate Degree Nursing curriculum is designed to enhance the teaching-learning continuum. This is facilitated by:
(a) Assessment of the student's readiness to learn.
(b) Presentation of varied learning strategies to accomodate learning styles.
(c) Creation of a positive learning environment which enables the student to acquire knowledge unlimited in depth, but limited in scope.

Example--Subject Area
The Mathematics subject area faculty believes in the following principles of learning:
(a) Learning takes place more effectively when a student is ready to learn.
(b) Individual differences must be considered if effective learning is to take place.
(c) Motivation is essential for learning.
(d) What students learn in a situation depends upon what they perceive.

Statement that reflects the need for students to be prepared to function in the occupational role which they have selected.

Example--Occupational Program
The Cosmetology faculty believes they prepare a graduate with specific skills, to be a competent practitioner in their occupational area.

Example--Subject Area
All people need to develop those understandings and attitudes that make them informed and productive participants in chosen occupational area.

Statement that indicates their education is an ongoing process and continuing education, formal or informal, should occur after the program is completed.

Example--Occupational Program
The faculty believes that although the occupational program prepares individuals to be specific practitioners in the job market, continuing education may be necessary to maintain or advance their position.

Example--Subject Area
The mathematics faculty believes that the individual through continuing education, will strive to improve their ability to cope with complex consumer and economic problems.

Statement that reflects faculty responsibility for periodically evaluating subject areas and programs.

Example--Subject Area and Occupational Program
The faculty is responsible for the continuing development, implementation, and evaluation of the occupational program or subject area.

SUGGESTIONS FOR WRITING A PHILOSOPHY

In writing the philosophy, these four things should be considered:

1. It should be detailed enough so it can act as a checklist for curriculum development.

2. It should be written so persons reading it can understand it.

3. Attempts to shorten it may make it nebulous and less meaningful to the reader who has not participated in its creation.

4. Traditionally, faculties desire a philosophy they can put in a few paragraphs, insert in a bulletin and expose for public view.

In order for a cohesive philosophy to be developed, differences and similarities in beliefs must be raised and resolved. Most faculties will find more commonalities than differences even though their first impression may be of vast differences and irreconcilable conflicts. The following form was devised to help achieve a consensus of opinion. When responding to the questions, respond from any sources you want or just use your own knowledge and beliefs. Bring it when you plan to discuss your philosophy.

QUESTIONS TO STIMULATE DISCUSSION OF A PHILOSOPHY

1. What values do you perceive as basic to subject area or occupational area (include moral and ethical values, scope and limits of educational responsibility, characteristics of practitioners)?

2. What do you believe about your subject area or occupational area--its origins, its processes, its roles and/or functions?

3. Do you identify any knowledges, skills, or performances of your subject area or occupational area that are basic or pre-requisite to any other knowledges, skills or performances? If so, what and why?

4. What do you think your subject area or occupational area prepares a student to do?

5. What learning principles do you use in your teaching?

6. What do you believe are the most important and/or desirable outcomes for your subject area or occupational area?

7. Open category. Respond at will.

The following is a model of a philosophy. It contains all the component parts identified previously. You model may differ to reflect your needs, purposes and beliefs about a subject area or occupational program, but should contain all these component parts.

Philosophy of Program
Associate Degree Nursing

Need Statements

The expansion of health care facilities, a greater awareness of prevention of illness in our society, an increased population growth and longevity contribute to a need for the technical skilled nurse in the community. The ADN program contributes to fulfilling the recognized community health needs.

The Purpose Statement

The purpose of the Associate Degree Nursing Program is to prepare the student to:

1. Give safe, individualized nursing care to patients with recurring health problems by using skills based on established methodologies.
2. Use therapeutic interactions as a unique means to accomplish the nursing process.
3. Utilize effective communication to facilitate interpersonal relationships.

Belief Statement Vocational, Technical Education

Education for this AD Nurse should be provided in vocational, technical institutions.

Nature of subject area, processes, practice roles

The beginning technical nurse practitioner, under the supervision of a more experienced R.N., functions as a member of the nursing team in assessing, planning, implementing and evaluating the individual's nursing care. The technical nurse guides and coordinates activities of less skilled personnel.

Intrinsic value and worth of individual

Each person has inherent dignity and rights which are considered during the total program endeavor.

Balance of skills and general education

Nursing as a health science utilizes principles derived from social, behavioral and natural sciences to achieve the health potential of the individual and his family.

Statement of Learning

The ADN curriculum is designed to enhance the teaching-learning continuum by:

1. Assessment of the student's readiness to learn.
2. Presentation of varied learning strategies to accommodate learning styles.
3. Creation of a positive learning environment enabling the student to acquire knowledge unlimited in depth, but limited in scope.

Reflection of functioning in role of preparation	The ADN program prepares a graduate with specific technical skills needed in our society.
Statement of education is an ongoing process	Even though the ADN program prepares students for a specific job, the faculty also believes continuing education is necessary to meet the students' potential as nurses, as consumers of health care, and as informed members of society.
Faculty responsibility for program or subject area	The ADN faculty is responsible for the continuing development, implementation, and evaluation of the ADN Program.

STATEMENT OF GOALS

Having developed a Statement of Philosophy, each occupational program and general education subject area develops a statement of goals. Goals are desired or anticipated outcomes which describe the end results which an occupational program or general education subject area intends to achieve through a competency based curriculum.

Preparing a Statement of Goals

The stated goals should be an outgrowth of the needs, purposes, beliefs, and occupational requirements as stated in the philosophy of the subject area or occupational program.

These goals must represent the end product the program hopes to achieve rather than the process by which they are achieved.

Each program or subject area is to develop goal statements that should reflect the following two areas:

1. Occupational and/or subject area skills and knowledges:

   Example--Occupational Area
   Develops the skill in the use of shorthand that is necessary for successful performance in the business office.

   Example--Subject Area
   Develops the ability to do simple mathematical computations.

2. Personal and social development:

   Example--Occupational Area
   Develop within the student the skills and abilities to become a competent employee and a contributor to society.

   Example--Subject Area
   Develop respect for other persons, insight into ethical values and principles, and the ability to live and work cooperatively with others.

The following is an example of a statement of goal.

Statement of Marketing Program Goals

The graduate of the Marketing program:

Subject area or program knowledge and skills (No. 1-5)

1. Demonstrates how historical development of retail marketing, its present scope and importance affects retail marketing and employment.
2. Analyzes the nation's major retail institutions, their history and growth, their philosophy of operation, and the image which they project through merchandising policies and advertising.

3. Demonstrates technical retail related skills which will enable him/her to become successful in the field of retailing.

4. Applies the broad understanding of marketing and distribution to the role of which retailing plays in the total process of moving goods and services from the point of manufacture to the ultimate consumer.

5. Participates in the community meeting and talking with retailers relating the retail process to individual proprietorship, department stores, chain stores, specialty stores, and discount stores.

Personal and social development goals (No. 6 & 7)

6. Develops an understanding of self, the customer, the economy, and the complexity of the wants and needs of society.

7. Develops a commitment to lifelong learning both in general education and in the area of retail marketing.

Obtaining Approval of Statement of Philosophy and Goals

Once a statement of philosophy and goals has been developed and approved by a curriculum committee, they are reviewed by CBE staff for adherence to guidelines for format and style. Once approved, the curriculum committee chairperson forwards them to the department coordinator. Upon his/her review and approval, it is forwarded by the coordinator to the Administrative Curriculum Committee for final review and approval.

DESCRIPTIVE LIST OF OCCUPATIONS

The next step in the implementation process is the development of a Descriptive List of Occupations for the occupational program.

The purpose of the Descriptive List is to first describe the occupations for which the Gateway program prepares graduates and second, to list the related occupations in that area that students may attain.

The occupations that are identified as entry level will give focus to later steps in the implementation process including development of a mobility chart and identifying those competencies that will be included in the curriculum.

Classes of Occupations Included in the Descriptive List of Occupations

Four different classes of major occupations are included in the Descriptive List of Occupations:

Entry Level - Those occupations for which graduates of a program are immediately eligible, or, that graduates can have a better opportunity of attaining having been enrolled in a Gateway program.

Advanced Level - Those occupations available to those who have completed a Gateway program but which require additional occupational experience, education, or training.

Baccalaureate Level - Those occupations for which a baccalaureate or higher degree is preferred.

Job Out - Those jobs that may be available to people who complete a part of a Gateway program or have appropriate skills to obtain jobs in that area prior to enrolling in the program.

Preparing Descriptive List

The Descriptive List of Occupations include the title and description of entry level occupations and the titles only for job out, advanced level, and baccalaureate level occupations.

Obtaining Occupational Information

To determine what entry level and related occupations are available for an occupational program several sources can be consulted:

Local business and industry
State and local VTAE Advisory Committees
Wisconsin Job Service
Want Ads

Library (Learning Resources Center) materials
Dictionary of Occupational Titles
Occupational Outlook Handbook
Wisconsin Career Information System (WCIS)
V-TECS Catalogs (Vocational-Technical Education Consortium of State)
LRC Career Education Collection

Identifying Entry Level

Once this occupational information is obtained, decide which major entry level jobs will be listed and described. Again, Entry Level Occupations should be:

-those occupations for which a graduate of the program is immediately eligible.

-those occupations that people can expect to have a better opportunity as a result of being enrolled in the program.

Describing Entry Level Occupations

For each entry level job, a brief job description is written. This job description should include typical duties and responsibilities.

Example: Stenographer
Takes dictation of letters, reports, and other business materials in shorthand. Transcribes dictation into mailable form. Sorts, files and retrieves material and uses duplicating machines. Frequently performs duties related to those of a receptionist. Some positions may require the stenographer to compose replies to general and routine correspondence.

Specifying Entry Level Occupational Titles (optional) - Specific Occupations

For some entry level occupations, specialties within the occupation may exist. These specialties have their own specific occupational titles to identify them. However, because the major requirements and skills required are generally the same, these specialties do not require job descriptions. They can be identified as Specific Occupations under the major entry level job description.

Example:

Entry Level Occupation:

Cook
Plans menus and meats, vegetables, desserts and other foods. Uses equipment to its fullest potential. Preserves nutritional value of foods. Maintains sanitation standards and follows work simplification procedures. May oversee other workers in kitchen areas.

Specific Occupations:

1. Fry Cook
2. Broiler Cook
3. Fish Cook
4. Roast Pig Cook
5. Grill Cook

Identifying and Listing Job Outs, Advanced Level and Baccalaureate Occupations

Select and list those major occupations that relate to the occupational program area:

Advanced Level and Baccalaureate - Those positions requiring more education or training. Some occupations may be listed under both advanced level and baccalaureate, if the job can be obtained with either on-the-job training or with a baccalaureate degree.

Job Out - Those positions that require a minimum of on-the-job training, or a minimal amount of educational experience with a program. These jobs would require either a high school diploma or minimal completion of the Gateway program.

FORMAT FOR DESCRIPTIVE LIST
OF OCCUPATIONS

Program With One Entry Level Occupation

NURSING - TECHNICAL
List of Occupations

ENTRY LEVEL OCCUPATIONS - OCCUPATIONS AVAILABLE TO GRADUATES FROM THIS GATEWAY PROGRAM

Graduate Nurse

The graduate nurse works with and under the supervision of a more experienced registered nurse and functions as a member of the health team in providing nursing care including administration of prescribed medications and treatments, assisting physician and observing and recording patient condition. Following completion of the educational program, is eligible to take licensing examination to obtain certification as a registered nurse.

ADVANCED LEVEL OCCUPATIONS - OCCUPATIONS THAT MAY BE AVAILABLE TO GRADUATES OF THIS PROGRAM AFTER COMPLETING SOME ADDITIONAL WORK EXPERIENCE AND/OR ADDITIONAL TRAINING

1. Team Leader
2. Head Nurse
3. Nurse Supervisor

BACCALAUREATE LEVEL OCCUPATIONS - OCCUPATIONS IN THIS FIELD AVAILABLE TO THOSE WITH A BACCALAUREATE OR HIGHER DEGREE

1. Clinical Instructor
2. Supervisor
3. Public Health Nurse
4. Assistant Administrator
5. Nurse Clinician

JOB OUT LEVEL OCCUPATIONS - OCCUPATIONS THAT MAY BE AVAILABLE UPON COMPLETING PART OF THE PROGRAM

1. Ward Clerk
2. Nurse Assistant
3. Inhalation Therapy Aid
4. Home Health Care Aid
5. Entry into Practical Nurse Program
6. Entry into Operating Room Assistant Program

PRECISION MATERIALS INSPECTION

List of Occupations

ENTRY LEVEL OCCUPATIONS - OCCUPATIONS AVAILABLE TO GRADUATES FROM THIS GATEWAY PROGRAM

Final Inspector

Performs final inspection and tests in products to insure specified operating performance or production specifications. Observes readings on meters and gages to ascertain functional defects or calibration requirements. May disassemble devices to determine causes ofdefective operations. May investigate causes of recurring defects.

Receiving Inspector

Inspects and tests purchase parts and sub-assemblies to insure components meet specifications of purchaser.

Process Inspector

Inspects for conformance with specifications and verifies standard work procedures and process conditions involved in manufacturing of products. Observes charts, meters and gages to verify conformity of process conditions to specifications and records readings.

Tool and Gauge Inspector

Inspects, tests and adjusts new and reworked tools, dies, jigs and fixtures for conformance to specifications. Tests units for fit of moving parts. Analyzes defective parts to determine cause of defect and recommends corrections.

Specific Occupations: 1. Hardness Inspector 2. Inspector, gauge and Instruments, 3. Gauge Inspector

Quality Control Inspector

Inspects completed assemblies and parts in process to evaluate quality of products. Tests hardness of metal components. Can reject or accept entire production lot according to quality of sample inspected.

Salvage Inspector

Inspects rejected or obsolete assemblies, materials or parts for possible salvage using measuring instruments. Measures parts to verify extent of defects. May inspect parts, assemblies and subassemblies in varying stages of production to identify causes for repetitive rejection.

Specific Occupations: 1. Processed-stock Inspector 2. Salvage Mechanic

ADVANCED LEVEL OCCUPATIONS - OCCUPATIONS THAT MAY BE AVAILABLE TO GRADUATES OF THIS PROGRAM AFTER COMPLETING SOME ADDITIONAL WORK EXPERIENCE AND/OR ADDITIONAL TRAINING

1. Quality Control Engineer
2. Inspection Supervisor
3. Quality Analyst
4. Chief Inspector
5. Quality Superintendent
6. Quality Managers

BACCALAUREATE LEVEL OCCUPATIONS- OCCUPATIONS IN THIS FIELD AVAILABLE TO THOSE WITH A BACCALAUREATE OR HIGHER DEGREE

1. Industrial Engineer
2. Quality Control Engineer

JOB OUT LEVEL - OCCUPATIONS THAT MAY BE AVAILABLE UPON COMPLETING PART OF THE PROGRAM

1. Machine Operator
2. Tool Room Worker

FOOD SERVICE MANAGEMENT
List of Occupations

ENTRY LEVEL OCCUPATIONS - OCCUPATIONS AVAILABLE TO GRADUATES FROM THIS GATEWAY PROGRAM

Hotel/Restaurant Manager Trainee or Assistant Manager

Performs assigned duties in business organization, depending on nature of business, to gain knowledge and experience for promotion to management positions; participates in work of such departments of business as credit, sales, engineering, advertising, accounting, traffic, warehousing, or personnel, performing various duties under close supervision. Observes techniques utilized by experienced worker. Learns line and staff functions of each department, and becomes familiar with management policies and viewpoints as they effect each phase of business operations. May rotate assignments among all departments or among departments having allied functions, or may be assigned a single department.

Cafeteria Manager

Directs and coordinates activities of workers engaged in furnishing cafeteria services to insure an efficient and profitable enterprise; purchases or requisitions food. Confers with Chef in planning menus. Hires personnel, assigns duties and hours, and coordinates their activities to insure prompt and efficient service to patrons. Inspects premises and equipment for conformity with safety and sanitary regulations. May assist in serving or replenishing food at counter and steamtable to facilitate service during rush hours.

Specific Occupations:

1. Lunchroom Manager

Food Concession Manager

Manages refreshment stand or other food concession at public gatherings, sports events, amusement parks, or similar facility. Purchases refreshments, according to anticipated demand and familiarity with public taste in food and beverages. Directs storage, preparation and serving of refreshments by other workers at refreshment stand or circulating throughout audience. Assigns vendors to locations. Tabulates receipts and balances accounts. Inventories supplies on hand.

Industrial Cafeteria Manager

Supervises and coordinates activities of workers engaged in preparation and serving balanced meals to employees of industrial plant. Plans daily menus to accommodate employees of all shifts, keeping expenses within budget. Purchases and keeps adequate supply of food and oversees storage and issuance of supplies. Supervises subordinates and coordinates activities of workers engaged in preparing food, serving meals, and cleaning kitchen and dining room. Keeps records and makes reports of expenditures. Cooperates with medical personnel in providing special diets for employees requiring individual attention. May distribute pamphlets on food and health habits to employees.

Specific Occupations:

1. Dining Service Supervisor.

Liquor Establishment Manager

Coordinates activities of workers engaged in selling alcoholic beverages for consumption on premises. Supervises, gives directions to, and assigns duties to employees. Estimates and orders foodstuffs, liquors, wines, or other beverages, and supplies. Employs and discharges workers. Adjusts customers complaints concerning service, food and beverages. May be designated according to kind of establishment managed.

Specific Occupations:

1. Beer Parlor Manager
2. Cocktail Lounge Manager
3. Night Club Manager
4. Tavern Manager

Food Controller

Computes amounts and costs of food bought and sold from records of Cashier and other summaries. Calculates profit or loss on each item of food sold in restaurants and also profit or loss in each department or restaurant, using calculating machine. When computing amount and cost of liquor and other beverages bought and sold may be designated as FOOD-AND-BEVERAGE CONTROL CLERK.

Specific Occupations:

1. Control Clerk
2. Food Auditor
3. Restaurant Food Control Clerk
4. Liquor Controller

MOBILITY CHART

In addition to a Descriptive List of Occupations, each occupational program curriculum committee prepares a Mobility Chart. This Mobility Chart gives a graphic representation of the common career paths that may be followed in advancing from the Entry Level occupations to Advanced Level and Baccalaureate Level Occupations identified in the Descriptive List. Also included on the chart are the Job Out Occupations.

Uses of the Mobility Chart

While preparing the mobility chart, bear in mind its potential uses:

To assist in career advisement by identifying the occupations available to graduates and the opportunities for career advancement.

To serve as a publicity tool for recruitment efforts by highlighting careers to which a occupational program could lead.

To identify possible new programs at Gateway by encouraging consideration of offering instructional programs for more advanced level occupations.

Developing the Mobility Chart

Determine whether a Mobility Chart will be developed for an entire program or for an occupational area within the program. Usually, the choice will be to develop a chart for an entire program. However, if there are too many major entry level occupational areas, a chart can be developed for each.

The Mobility Chart form included in the Implementation Manual is used to layout the information. The sections are completed as follows:

Program or Occupation

Name the program or occupation in the small rectangular box on the bottom of the chart.

Job Outs (Area A)

Place the job out titles in Area A of the chart, circle the titles with solid ovals.. To indicate mobility, draw descending lines from the box containing the program name to each job out oval.

Entry Level (Area B)

In the larger rectangular box, designated Entry Level are marked the entry level jobs. Arrange the occupational titles in such a way that mobility can be shown from the program name, to the entry level job and from the entry level job to the advanced level (Area C). Entry level jobs are circled with solid oval lines. Mobility is shown by arrows.

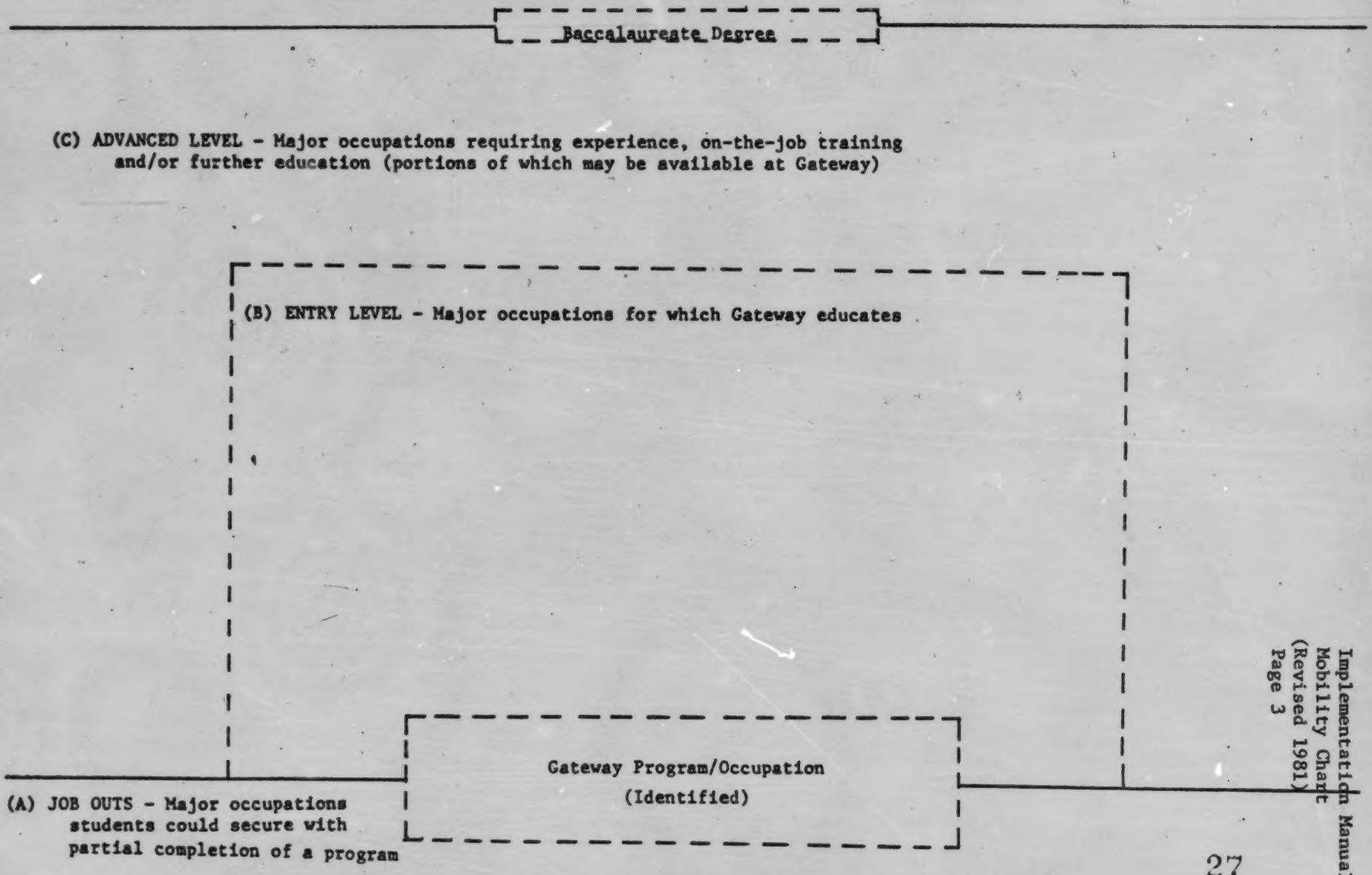
Advanced Level (Area C)

In the space provided for advanced level occupations arrange the job titles in such a way that common mobility paths from the entry level occupations to the advanced level can be indicated. Mobility from one advanced level occupation to another may also be noted. Advanced level job titles are placed in a broken oval. Mobility is shown by arrows.

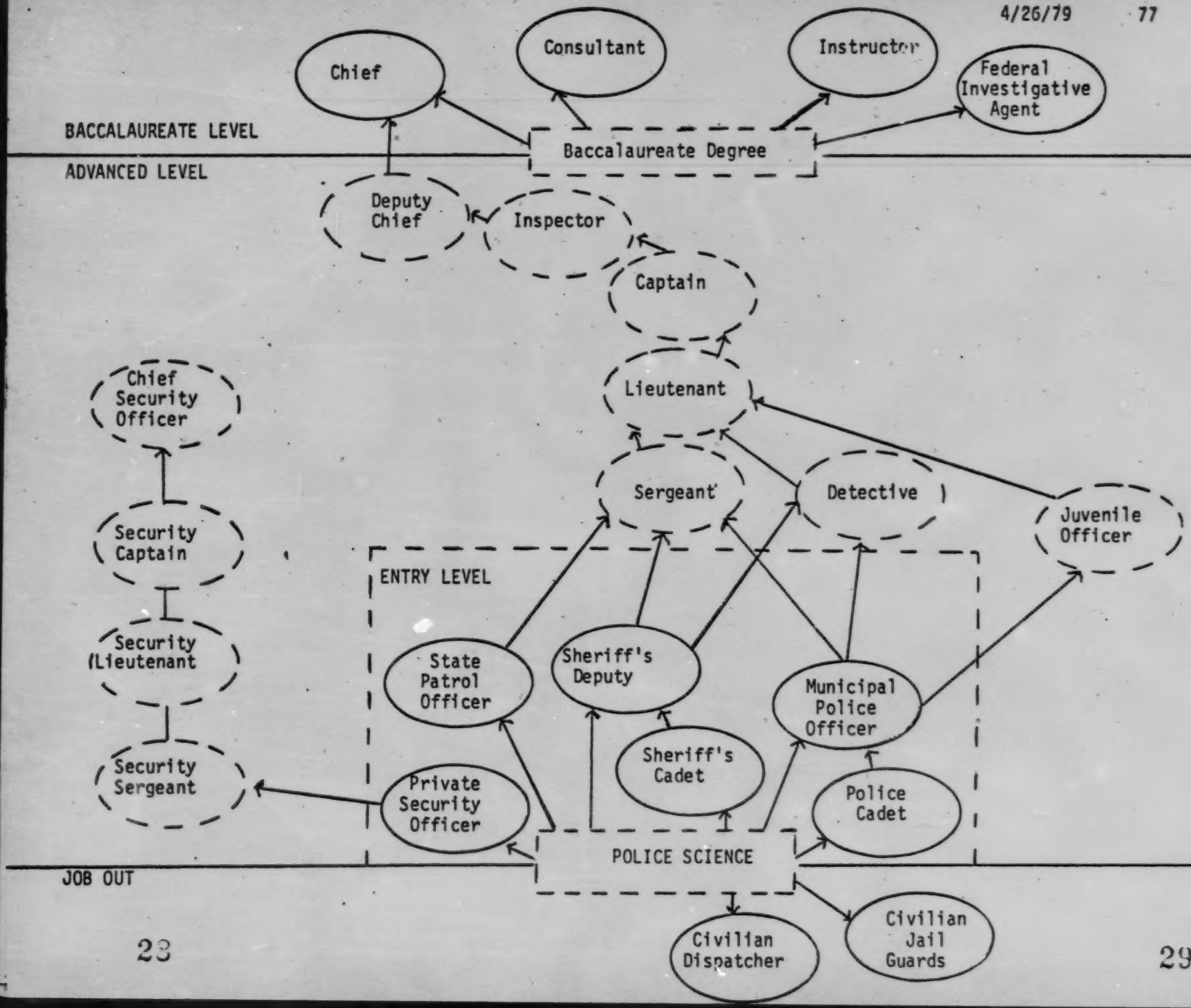
Baccalaureate Degree (Area D)

Place the baccalaureate or higher level job titles above the baccalaureate box and line. These jobs are circled with solid oval lines. Mobility lines are drawn from the baccalaureate box to each job title.

(D) BACCALAUREATE LEVEL - Major occupations usually requiring a baccalaureate or higher degree


Baccalaureate Degree
(C) ADVANCED LEVEL - Major occupations requiring experience, on-the-job training and/or further education (portions of which may be available at Gateway)
(B) ENTRY LEVEL - Major occupations for which Gateway educates
Gateway Program/Occupation
(Identified)
(A) JOB OUTS - Major occupations students could secure with partial completion of a program

Implementation Manual
Mobility Chart
(Revised 1981)
Page 3


Chief
Consultant
Instructor
Federal Investigative Agent
BACCALAUREATE LEVEL
Baccalaureate Degree
ADVANCED LEVEL
Deputy Chief
Inspector
Captain
Chief Security Officer
Lieutenant
Security Captain
Sergeant
Detective
Juvenile Officer
ENTRY LEVEL
Security Lieutenant
State Patrol Officer
Sheriff's Deputy
Municipal Police Officer
Security Sergeant
Sheriff's Cadet
Private Security Officer
Police Cadet
POLICE SCIENCE
JOB OUT
Civilian Dispatcher
Civilian Jail Guards

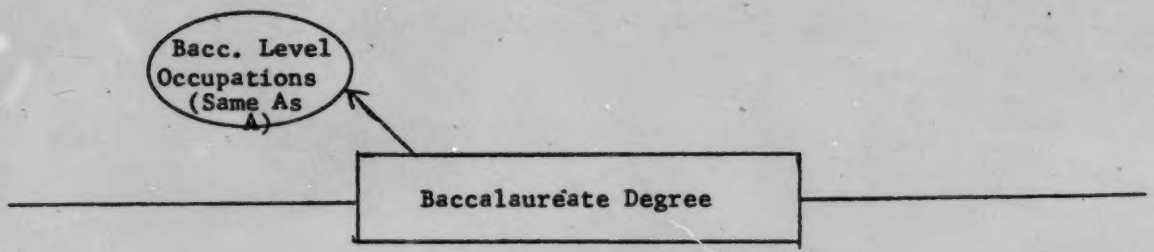
VARIATIONS IN MOBILITY CHART

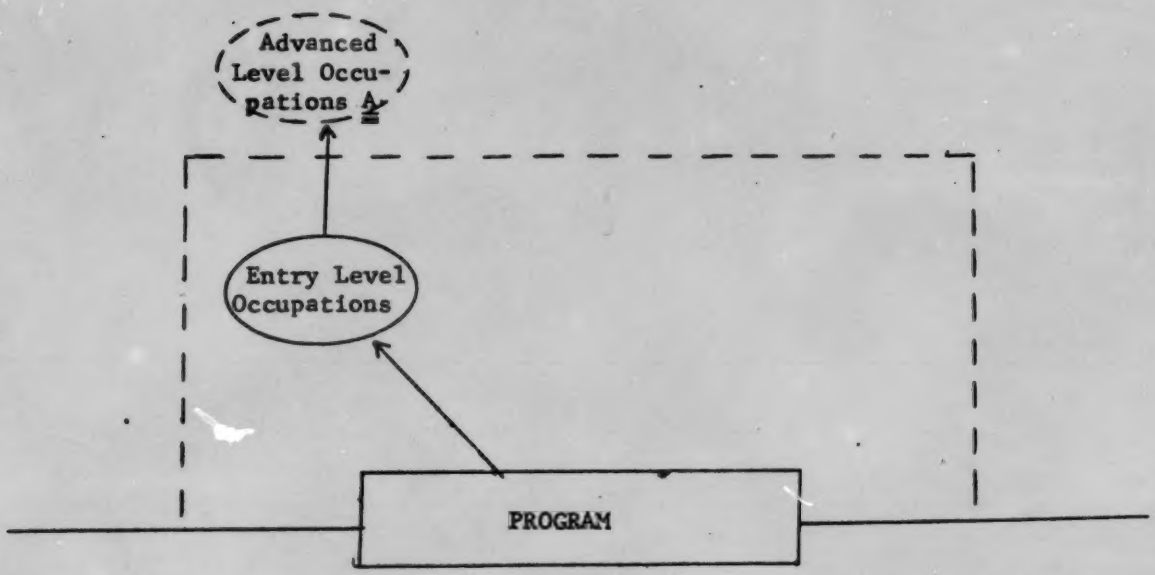
On the preceding page is a sample of basic mobility chart. However, variations in programs may require slight variations in the way a mobility chart is developed.

To depict a job title identified on the descriptive list of occupations as both advanced level and baccalaureate level:

Place the job title above the baccalaureate degree line and extend a line from the baccalaureate box to the job title.

Place the job title in the advanced level area of the chart and show mobility from the appropriate entry level position.

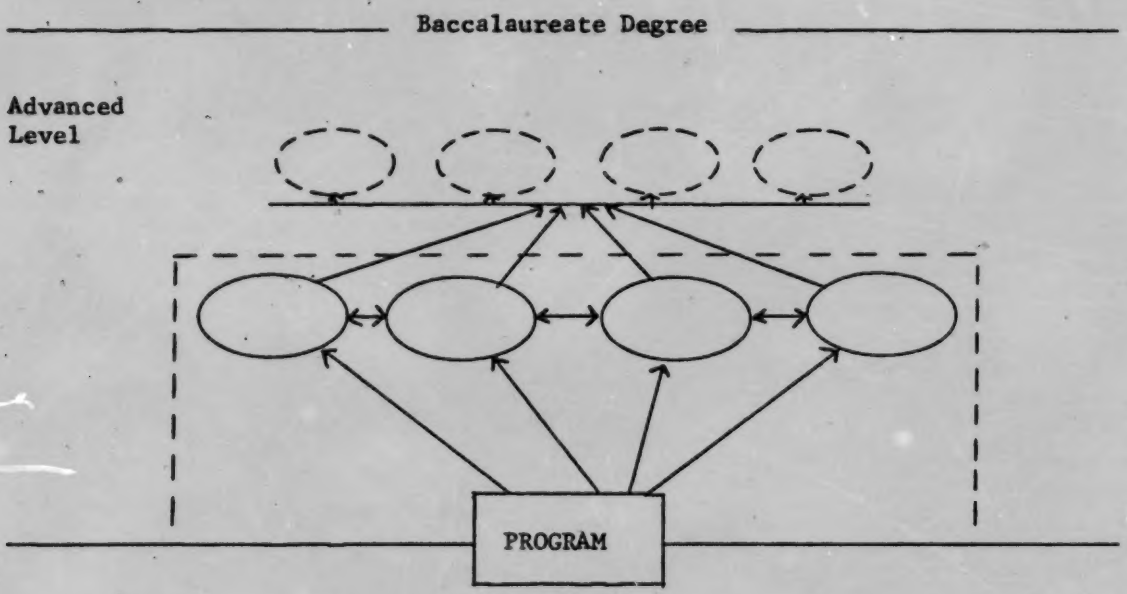




When career mobility can lead from any or all entry level occupations to any or all advanced level occupations:

Draw mobility lines connecting all appropriate entry level occupations to the program box and to one another.

Draw mobility lines from each entry level occupation to a common line in the advanced level occupation area. Connect with mobility lines each advanced level occupation to the common line.



The relationship that a program may have to apprentice training may also be depicted. Apprenticeship should be viewed as another means of attaining a career goal. A program that wishes to show a relationship to apprenticeship should decide on training received in the occupational program can be applied to apprenticeship requirements.

Obtaining Approval of Descriptive List of Occupations and Mobility Chart

Descriptive Lists and Mobility Charts should be reviewed by the occupational program curriculum committees and approved by the CBE Center, department coordinator and Administrative Curriculum Committee.

DEVELOPING BROAD COMPETENCY STATEMENTS

This section of the Manual will concentrate on the first stage of actual curriculum development: the Identification of Broad Competencies. These broad competencies will serve as the basis for organizing courses and for later development of Broad Competency Modules and Individualized Learning Paks (ILP'S). Outlined below are the procedures for identifying and listing competencies for all courses at Gateway.

Definition of a Broad Competency

A competency is a cluster of related skills and/or knowledges which are associated for a common purpose or end.

A competency is stated in behavioral terms with an action verb and a brief identification of what is acted upon.

Characteristics of a Broad Competency

A broad competency statement has the following characteristics:

1. It is a general behavioral statement describing the knowledge, skills and/or attitudes the student must exhibit upon successful completion of a course or program.

2. It defines the learning outcome, but need not include such statements as how well the student must perform (criteria of acceptable performance) or what will be given to the student during testing (conditions/limitations).

3. Each broad competency statement must be identifiable primarily as a knowledge, skill or attitude.

4. It must lend itself to the development of specific learning outcomes that will appear in the instructional Broad Competency Modules.

5. The attainment of the broad competency should involve 15 to 20 hours of student learning time.

Types of Broad Competencies

The Curriculum Design for Gateway Technical Institute refers to three Types of broad competencies:

Occupational
Occupationally Related
Universal

These designations are purely for Gateway's use:

1. To underscore the role of General Education in the curriculum.

2. To determine responsibility for identifing broad competencies.

3. To determine if a program's curriculum is balanced.

4. To focus on the related areas that should have input into the occupational program curriculum.

Broad Occupational Competency

Statements of the skills and/or knowledges specifically identified with one particular program or occupation. It is required by only one occupational program and is taught by the program instructors only.

EXAMPLE: A competency identified for the course Shorthand II in the Secretarial Science program is considered occupational because it is required in only that program.

Broad Occupationally Related Competency

Statements of the Skills and/or knowledge closely related to an occupation and needed to insure success in a particular occupation. The competency is required in more than one but not all occupational programs. It may be taught by an occupational program or a general education instructor.

EXAMPLE: A competency identified for the course Typing III in the Secretarial Science program is considered occupationally related because it is required by another program as well.

Broad Universal Competency

Statements of social, communicative, scientific and problem-solving knowledges and/or skills needed by an adult in contemporary society. They are the minimum competencies which should be required for all degree and diploma graduates of Gateway. They are taught by general education instructors.

Each occupational program at Gateway will have a list of broad competencies. The list will include occupational, occupationally related and universal competencies. These competencies will be arranged by course. The same competency will be required for the same program through out the District. The same competencies will exist for the same courses through out the District.

IDENTIFYING BROAD COMPETENCIES

NOTE: Gateway associate degree and diploma program are required to meet state, district and licensing agency guidelines concerning the amount of time devoted to occupational and occupationally related instruction (including General Education). Although individual competencies can be identified, the present balance of occupational and occupationally related competencies must be maintained to insure conformity with State VTAE guidelines.

This balance is reflected in the courses that comprise a program's curriculum. It is for these courses that competencies are identified. At the same time, the competencies must be appropriate to the occupations for which the program prepares graduates. Proper identification of competencies may show where adjustments in the curriculum are required.

Occupational Competencies

Identifying broad occupational competencies is the responsibility of program instructors and the program curriculum committee. Occupational competencies are identified for courses required only by that program.

To assist in identifying and listing broad competencies the following procedure may be used:

1. Review the mission statement of Gateway and the VTAE system.
2. Interview persons presently employed or supervising others employed in the occupations identified with the program including Advisory Committee Members.
3. Obtain and review job descriptions.
4. Obtain and review course or program objectives or competency lists from other schools.
5. Obtain and review accreditation standards for licensed occupations.
6. Obtain and review sample licensing examinations.
7. Review professional journals.

Occupationally - Related Competencies

Identifying broad occupationally related competencies may be the responsibility of either:

1. A program instructor if the course for which the competenices are being identified is required by more than one program and is not classified as a general education course.
2. A general education instructor if the course is required by more than one but not all programs at Gateway and is offered through the General Education Department.

Assigning the identification of occupationally related competencies will be made by department coordinators.

To identify and list these competencies, instructors who are developing competency lists for an occupationally related course should consult with instructors in those programs that will require the course. These instructors may suggest additional competencies that should be included. Instructional Services can provide names of programs requiring each course.

Universal Competencies

NOTE: As this Implementation Manual is being written, no one General Education course is required of all students at Gateway. Therefore, there are now no universal competencies as defined in the Curriculum Design. It is the intent of this section to expand the Curriculum Design and provide guidelines to the District and General Education faculty so that universal competencies may be included in the curriuclum as minimum requirements sometime in the future.

Since six credits is the maximum amount of time that can be devoted to general education in diploma programs, the total number of universal competencies that can be included in the curriculum is 18 to 24. In associate degree programs, the total number of universal competencies that can be included in the curriculum is 18 to 24. In associate degree programs, general education requirements beyond the proposed universal competencies would be considered "occupationally related". Therefore, in keeping with these guidelines, each General Education subject area curriculum committee should identify 5 to 6 universal competencies.

Identifying broad universal competencies is the responsibility of instructors in each of the four General Education Areas: Math, Science, Social Science, and Communications.

To assist in identifying broad universal competencies which are suitable as requirements for all degree and diploma students, each subject area may use the following:

1. Review the mission of Gateway and the VTAE system.
2. Consult community agencies, placement agencies and learning centers to identify problems.
3. Contact local business and industry.
4. Obtain the recommendations of counselors, faculty program advisors and Goal Center personnel.
5. Analyze research statistics on typical life experience.
6. Identify social and economic concerns reflected in the news media.

Since proposed universal competencies must be agreed upon by all instructors in General Education and be shared with program instructors and professional support staff, it is important that these be clear. Therefore, for each competency, a brief description of the projected content should be written. Content decisions are tentative, subject to re-evaluation in the next stage of CBE development.

EVALUATING BROAD COMPETENCY STATEMENTS

Broad competency statements will be evaluated against the following criteria.

Eight Criteria of a Broad Competency

1. The broad competency must be clearly stated.
2. The broad competency must lend itself to the development of specific competencies.
3. The broad competency must be stated in behavioral terms.
4. The broad competency must be appropriate for the program or general education subject area.
5. Each broad competency should be distinct from each other broad competency.
6. Broad competencies must be identifiable primarily as knowledge, skills, or attitudes.
7. Broad competencies must be classifiable as occupational, occupationally related, or universal.
8. Broad competencies should usually involve 15 to 20 hours of student learning time.

Equating Broad Competencies and Credits

The number of broad competencies needed in an area can be clarified by making a credit to competency or competency to credit conversion. Based upon 15 to 20 hours of student learning time needed to achieve one broad competency, 2.7 to 3.6 broad competencies are equivalent to one associate degree or diploma credit. This calculation is based upon two hours of study time for one hour of lecture class time in the associate degree programs, and upon one hour of study time for one hour of lecture time in the diploma programs. Applying this formula yields the following credit/competency relationship:

1 credit	=	2.7 to 3.6 broad competencies
2 credits	=	5.4 to 7.2 broad competencies
3 credits	=	8.1 to 10.8 broad competencies
4 credits	=	10.8 to 14.4 broad competencies
5 credits	=	13.5 to 18 broad competencies

AIDS IN WRITING BROAD COMPETENCY STATEMENTS

Selecting Behavioral Terms

Broad competencies identify the knowledges, skills and/or attitudes the student must exhibit upon completion of the instructional program. These statements include an action verb and a brief identification of what is acted upon. The following list of verbs may be helpful in writing broad competencies.

adapt
analyze
apply
appreciate
appraise
arrange
assemble
assess

build

categorize
change
chart
choose
classify
combine
commit
compare
compose
copy
create
critique
characterize

define
demonstrate
depict
describe
design
devise
diagram
differentiate
discuss
distinguis
draw

employ
estimate
evaluate
examine

experiment
explain
express

formulate

generalize
generate

hypothesize

identify
implement
index
inspect
interpret
inventory

judge

label
list
locate

manage
manipulate
measure

name
number

order
organize

plan
practice
predict
prepare
propose

question

randomize
rate
recall
recognize
record
relate
repeat
report
restate

schedule
select
set up
sketch
solve
sort
substitute
synthesize
systemize

tell
test
theorize
translate
transform

use
utilize

value
vary

Examples of Broad Occupational and Occupationally-Related Competencies

Below are several statements that can be classified as occupational or occupationally-related. However, they can not be classified as a broad competency statement because they do not meet the criteria of a broad competency. Below each statement are suggested revisions to change the statement to a broad competency.

Example: Recognize various types of insurance.
Comments: "Recognize" is not a behavioral term since it does not indicate how one can determine recognition. Also, for clarity, the type of insurance should be indicated.

Suggested Revision: Describe various types of insurance available to the owner of a small business.

Example: Examine books, periodicals and bulletins relevant to labor-management relations.
Comments: This is not an outcome, it is an activity. The books, periodicals and bulletins are "examined" for some reason or outcome.

Suggested Revision: Select appropriate books, periodicals and bulletins relevant to specific issues in labor-management relations.

Example: Demonstrate an understanding of the Interstate Commerce Commission.
Comments: No behavioral terms in this statement. Neither student nor instructor knows what knowledge must be acquired or how that knowledge is exhibited.

Suggested Revision: Summarize the function of the Interstate Commerce Commission in regulating interstate trade.

Example: Explain the procedures for typing a business letter from dictated material.
Comments: This statement can be a broad competency, unless the intent is to actually have student type a business letter. If so the competency is not acceptable.

Suggested Revision: Type a business letter from dictated material.

Example: Prepare, file and prosecute loss and damage claims.
Comments: This is a behavioral statement. However, unless the student actually has the opportunity to file and prosecute a case in the class and be assessed by the instructor, it can not be a part of the competency statement.

Suggested Revision: Prepare a loss and damage claim and describe procedures for filing and prosecuting.

Example: Make decisions involving the use of capital for plant and equipment.
Comment: This competency is unclear. To make decisions the student must be given something. Also, to make an assessment, instructor must know how student arrived at decision.

Suggested Revision: Given a problem involving use of capital for plant and equipment, make decisions to appropriate course of action.

Examples of Broad Universal Competencies

Below are competencies that may be identified as universal competencies. In addition to meeting the eight criteria of a broad competency, they also may be considered as:

1. A social, mathematics, communicative or science competency needed by a typical adult in society.

2. Oriented to life situations rather than one particular program or occupation.

3. Suitable as a requirement for all students in any degree or diploma program.

Social Science:

Describe the economic decision that must be made by people in a free enterprise economy.

Explain how basic human needs and emotions may be fulfilled.

Math:

Solve problems involving addition, subtraction and multiplication of whole numbers.

Solve problems involving geometric shapes encountered in daily life

Communications:

Write complete sentences using proper sentence structure, punctuation, spelling, capitalization and subject-verb agreement.

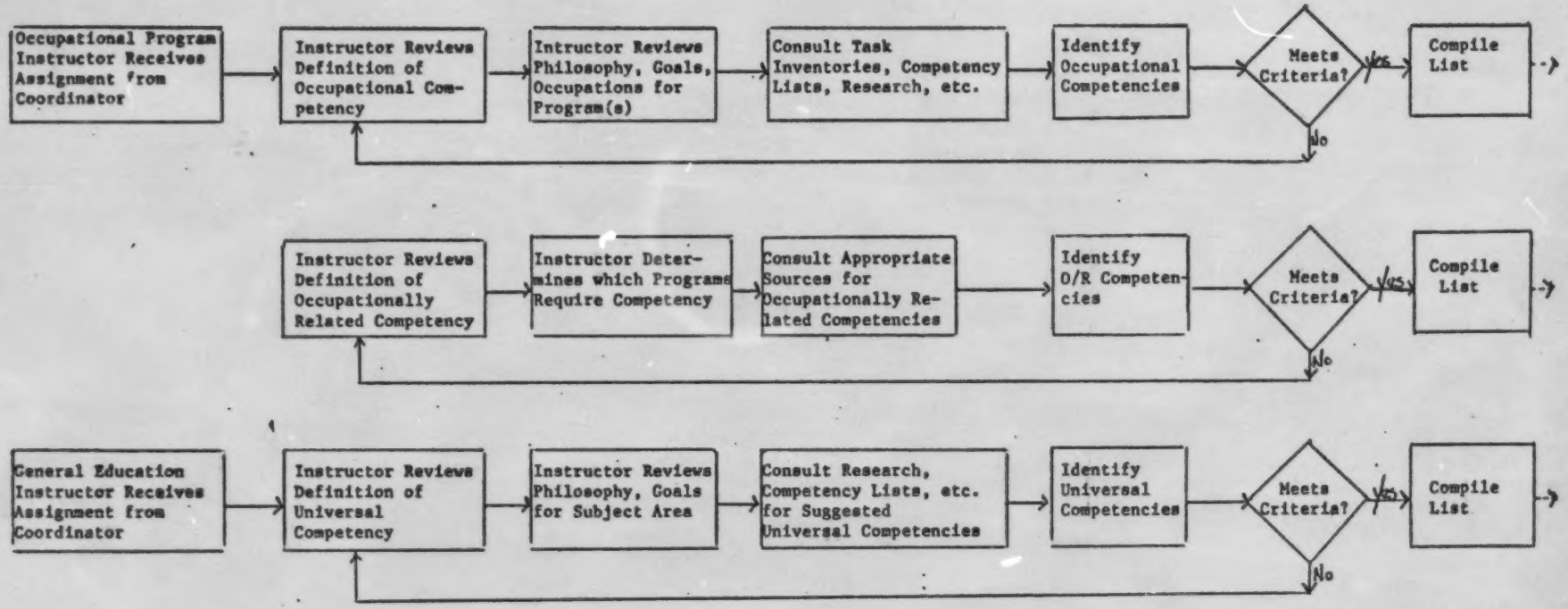
Read and interpret common types of written material.

Science:

Identify the cause and effect relationship between humans and the material environment.

Describe the effects of basic physical laws on typical life situations.

DEVELOPING BROAD COMPETENCY STATEMENTS


Occupational Program Instructor Receives Assignment from Coordinator
Instructor Reviews Definition of Occupational Competency
Intructor Reviews Philosophy, Goals, Occupations for Program(s)
Consult Task Inventories, Competency Lists, Research, etc.
Identify Occupational Competencies
Meets Criteria?
Yes
No
Compile List
Instructor Reviews Definition of Occupationally Related Competency
Instructor Determines which Programs Require Competency
Consult Appropriate Sources for Occupationally Related Competencies
Identify O/R Competencies
Meets Criteria?
Yes
No
Compile List
General Education Instructor Receives Assignment from Coordinator
Instructor Reviews Definition of Universal Competency
Instructor Reviews Philosophy, Goals for Subject Area
Consult Research, Competency Lists, etc. for Suggested Universal Competencies
Identify Universal Competencies
Meets Criteria?
Yes
No
Compile List

PREPARATION FOR COMMUNICATION OF BROAD COMPETENCIES

The preceding section of the Implementational Manual dealt with the identification of broad competencies for each course at Gateway, plus universal competencies. This section focuses on the process for the refinement of these broad competencies prior to communication between program instructors and instructors of occupationally related and general education areas. At the conclusion of this stage of implementation, each program will have a list of occupational and occupationally related broad competencies ready for communication. General Education Department will have a list of broad universal competencies and suggested occupationally related competencies ready for communication.

BROAD OCCUPATIONAL COMPETENCIES

Improvement of Competencies by Occupational Program Curriculum Committees

Occupational program curriculum committees should meet and review the broad occupational competencies identified in the previous stage of CBE development. At this meeting, competencies should be refined prior to communicating with instructors in other programs and general education.

To improve the occupational competencies consideration should be given as to whether or not:

1. The Competencies meet the Eight Criteria of a Broad Competency.
2. The list of Competencies meet State and District Guidelines for associate degree and diploma programs.
3. There occupational requirements that should be included as a competency.
4. The number of competencies equate to the number of credits for the course.

The occupational program curriculum committees must agree on a single list of broad occupational competencies for each course required only by that program. Even if the program is offered on more than one campus, the same competencies will be required. Competencies are listed on the "Broad Competency Identification Chart" shown at the end of this section of the Implementation Manual. Copies are submitted to the CBE Center for review.

The occupational program curriculum committee should also review the occupationally related competencies. Competencies for these courses for which it has primary responsibility should be refined as above. Occupationally related competencies taught in courses offered by other programs or general education should also be listed. Refinement will be done during the communication stage.

BROAD OCCUPATIONALLY RELATED COMPETENCIES

Identification of Additional Broad Occupationally Related Competencies by Related Instructors

As noted in the preceding section of the Implementation Manual, instructors of occupationally related courses are those instructors in general education or occupational program who teach a course required by more than one program.

For each occupationally related course, a list of suggested competencies should be prepared. This list will be presented to each occupational program that requires it. To prepare this list, instructors of occupationally related courses will meet under the direction of their coordinator and indentify suggested competencies.

Suggested Procedures for Related Area to Identify Broad Occupationally Related Competencies

1. The department coordinators will assign appropriate instructors of a course presently required by more than one program to identify suggested occupationally related competencies for that subject.

   Example: The General Education Coordinator will assign appropriate instructors of American Institutions to identify occupationally related competencies for that course.

   Example: The Business Education Coordinator will assign appropriate instructors of Business Math to identify occupationally related competencies for that course.

2. Each assigned instructor will prepare a list of broad occupationally related competencies for that course.

3. A meeting will then be held under the chairpersonship of the department coordinator, or his or her appointee, to compile one list of competencies for that subject. In compiling this list, the instructor will:

   a.) Check for duplication of competencies

   b.) Add or delete competencies

   c.) Refine competencies by evaluating them against the "Eight Criteria".

4. The number of competencies identified should be sufficient to allow choice to the occupational program curriculum committee, but limited enough to approximate state and district guidelines.

5. One copy of the final list of occupationally related competencies will be sent by the department coordinator to the CBE Center.

Example:

Appropriate instructors of the course economics will meet and prepare a single list of recommended broad occupationally related economics competencies for the associate degree programs.

Appropriate instructors of Data Processing will meet and prepare a list of broad occupationally related competencies for each course required by other programs.

Appropriate instructors in trade and industry will meet and prepare a list of broad occupationally related competencies in blueprint reading for diploma programs.

Appropriate instructors of mathematics will meet and prepare a list of mathematics competencies for each course required by various associate degree and diploma programs.

BROAD UNIVERSAL COMPETENCIES

Improvement of Universal Competencies by General Education Curriculum Committee

Each general education subject area curriculum committee (Math, Science, Social Science, and Communications) will meet and review universal competencies. At these meetings, curriculum committee members will make any needed improvement on the competencies prior to communication with other general education and occupational instructors and with professional support staff in Student Services and Instructional Resources.

Improvement of the universal competencies should result in:

1. Competencies that meet the definition of a universal competency.
2. Competencies that meet the Eight Criteria of a Broad Competency.
3. Competencies that are suitable as minimum requirement for all degree and diploma students at Gateway.

Upon completion of the refining process each General Education Curriculum Committee lists its proposed universal competencies along with the brief content discription in the "Universal Competency Evaluation Form" shown at the end of this section of the Implementation Manual. Sufficient copies should be duplicated for distribution to all General Education instructors. Copies are sent to the CBE Center for review.

DATE _____

BROAD COMPETENCY IDENTIFICATION CHART

Program or General Education Area _____ Course Title & Number _____

_____

| For Gateway Use Only | | |

UNIVERSAL COMPETENCY EVALUATION FORM

Originating Curriculum Committee: _____ Reactor's Name: _____

Curriculum Committee Chairperson: _____

Subject Area (when relevant): _____

Universal Competency: (One Per Page)
Description of Content:

Does this competency contain the three elements that make it "universal"?
(Check if yes, leave blank if no, use a question mark if unsure.)

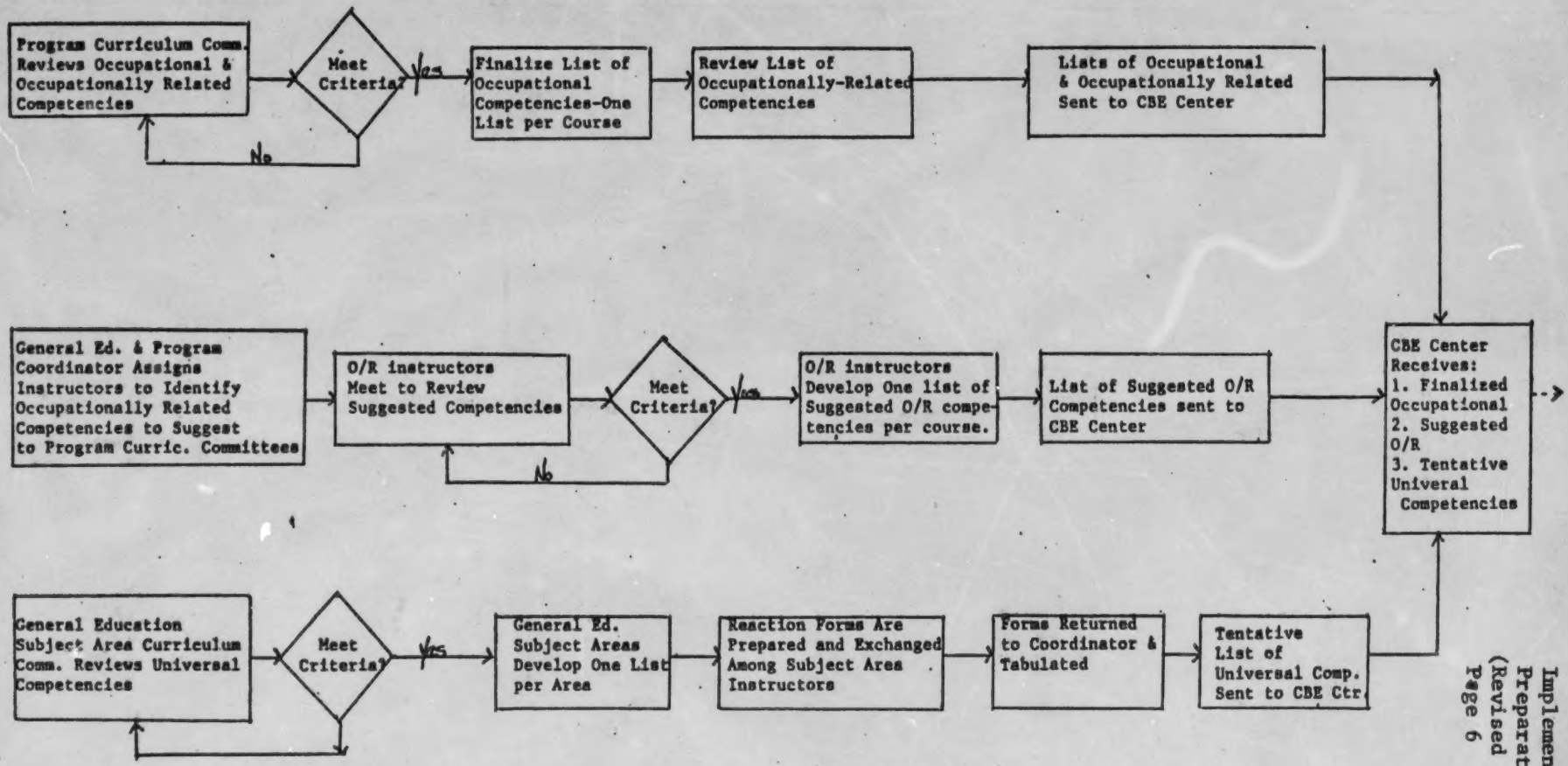
1. Is it a social, mathematics, communicative, or science competency needed by a typical adult in society? ☐
2. Is it orientated to life situations rather than to one particular program or occupation? ☐
3. Is it suitable as a requirement for all students in all degree and diploma programs? ☐

Does this competency meet the "Eight Criteria of a Broad Competency"?
(Use the same marking system as for the preceding section.)

1. Is it clearly stated? ☐
2. Does it lend itself to the development of specific competencies? ☐
3. Is it stated in behavioral terms? ☐
4. Is it appropriate for the general education subject area? ☐
5. Is it distinct from each other broad competency? ☐
6. Is it primarily knowledge, skills, or attitudes? (Use K,S,A.) ☐
7. Is it occupational, occupationally related or universal? ☐
8. Does it involve 15 to 20 hours of student learning time? ☐

Comments:

PREPARATION FOR COMMUNICATION OF BROAD COMPETENCIES


Program Curriculum Comm. Reviews Occupational & Occupationally Related Competencies
Meet Criteria?
No
Yes
Finalize List of Occupational Competencies-One List per Course
Review List of Occupationally-Related Competencies
Lists of Occupational & Occupationally Related Sent to CBE Center
General Ed. & Program Coordinator Assigns Instructors to Identify Occupationally Related Competencies to Suggest to Program Curric. Committees
O/R instructors Meet to Review Suggested Competencies
Meet Criteria?
No
Yes
O/R instructors Develop One list of Suggested O/R competencies per course.
List of Suggested O/R Competencies sent to CBE Center
CBE Center Receives:
1. Finalized Occupational
2. Suggested O/R
3. Tentative Univeral Competencies
General Education Subject Area Curriculum Comm. Reviews Universal Competencies
Meet Criteria?
Yes
General Ed. Subject Areas Develop One List per Area
Reaction Forms Are Prepared and Exchanged Among Subject Area Instructors
Forms Returned to Coordinator & Tabulated
Tentative List of Universal Comp. Sent to CBE Ctr.

COMMUNICATION OF BROAD COMPETENCIES

Preceding sections of the Implementation Manual that dealt with broad competency development provided the procedures for identifying and improving broad competencies. Each occupational program curriculum committee has identified broad occupational and occupationally related competencies. Instructors in the same occupationally related courses have prepared one list of broad occupationally related competencies to suggest to occupational program curriculum committees. Instructors in each General Education Subject Area have prepared a single list of broad universal competencies.

This section of the Implementation Manual describes procedures for communication between occupational and related instructors to produce a single list of occupational and occupationally related broad competencies for each program. This section also describes the procedures general education instructors will use to communicate with professional staff members of Instructional Services, Student Services, and Instructional Resources concerning broad universal competencies. At the conclusion of this section of the Implementation Manual, all lists will be complete and ready for validation.

COMMUNICATION OF BROAD OCCUPATIONALLY RELATED COMPETENCIES THROUGH JOINT MEETINGS

Once the occupational program curriculum committee and the instructors in related areas, including general education, have developed their lists of broad competencies, the two groups should meet.

These meetings will provide the opportunity for occupational program curriculum committees, in cooperation with related areas, to:

1. Further refine broad occupationally related competencies for the occupational program according to the "Eight Criteria of a Broad Competency" as listed in the "Preparation for Communication of Broad Competencies" section of the Implementation Manual.

2. Add occupationally related competencies to the program list.

3. Re-check competency designation.

4. Check for duplication of competencies.

Joint meetings may be conducted on an informal basis if all related areas involved with the program are consulted and competencies from all preceding meetings of related instructors are discussed. If a more formal procedure is needed in the communication process, the following procedure is suggested:

Once the joint meeting between the occupational and occupationally related instructors have been completed and a list of competencies for a course agreed upon, the instructor who is responsible for identifying the competencies should submit them to the CBE Center for review. The competencies should be listed on the Broad Competency Identification Chart shown in the preceding section of the Manual.

CBE Center staff will review the competencies against the criteria for format and adherence to developmental procedures stated in the Implementation Manual. Those not meeting the criteria will be returned to the appropriate instructors or coordinator, along with reasons for requested change.

COMMUNICATION OF BROAD UNIVERSAL COMPETENCIES

Communication of broad universal competencies requires a two stage procedure:

1. Communication within the General Education Department
2. Communication with occupational program instructor and professional support staff in Student Services and Instructional Resources.

Communication Within The General Education Department

All general education instructors will meet under the chairpersonship of the General Education Coordinator to prepare one list of universal competencies for all four general education subject areas. In preparing this list, each general education instructor must complete the "Universal Competency Evaluation Form" by evaluating each competency against the three elements of a universal competency and against the "Eight Criteria of a Broad Competency." Any competency not meeting each of the three elements and the eight criteria must either be refined or deleted. Additional competencies, along with brief content descriptions may be listed if they meet the criteria for universal competencies.

Once the single list of tentative universal competencies is developed by the General Education Department, the universal competencies, along with the brief content description, must be grouped by discipline and listed on the "Universal Competency Reaction Form" shown at the end of this section of the Manual. This single list will be submitted by the General Education Coordinator to the CBE Center for distribution to occupational program curriculum committees and support staff.

COMMUNICATION WITH OCCUPATIONAL PROGRAMS AND PROFESSIONAL SUPPORT STAFF

To obtain input from Student Services and Instructional Resources professional staff the following procedure is used:

1. The CBE Center will distribute to each occupational program curriculum committee a sufficient number of universal Competency Reaction forms for each member of the curriculum committee. A sufficient number of reaction forms for each professional support staff person in the Student Services and Instructional Resources will also be distributed to administrators of these areas.

2. Each curriculum committee chairperson will meet with the curriculum committee members to distribute the reaction form and to obtain comments and responses. The support staff administrator will do the same for his/her area. A representative from General Education may be invited to meet with the curriculum committee or support area to provide further explanation.

3. The coordinator with the assistance of the curriculum committee chairperson or the support staff administrator is responsible for obtaining completed reaction forms from all members of his/her group and returning these forms to the CBE Center.

4. CBE Center personnel will tabulate the responses from all occupational programs and support staff areas and forward the results to the General Education Coordinator.

5. The General Education Coordinator will route the responses to the appropriate general education curriculum committee for analysis.

Each general education subject area curriculum committee will receive the tabulated responses from the General Education Coordinator. The committee will analyze the data to determine which competencies should be refined or deleted. Each curriculum committee should list its competencies and submit them to the CBE Center. The CBE Center staff will review the competencies against the criteria for format and adherence to developmental procedures stated in the Implementation Manual. Those not meeting the criteria will be returned to the appropriate instructors or coordinators, along with reasons for requested change.

INTERDEPARTMENTAL UNIVERSAL COMPETENCY REACTION FORM

General Education Subject Area: _____

Evaluating Curriculum Committee: _____ **Chairperson:** _____
(or institutional department)

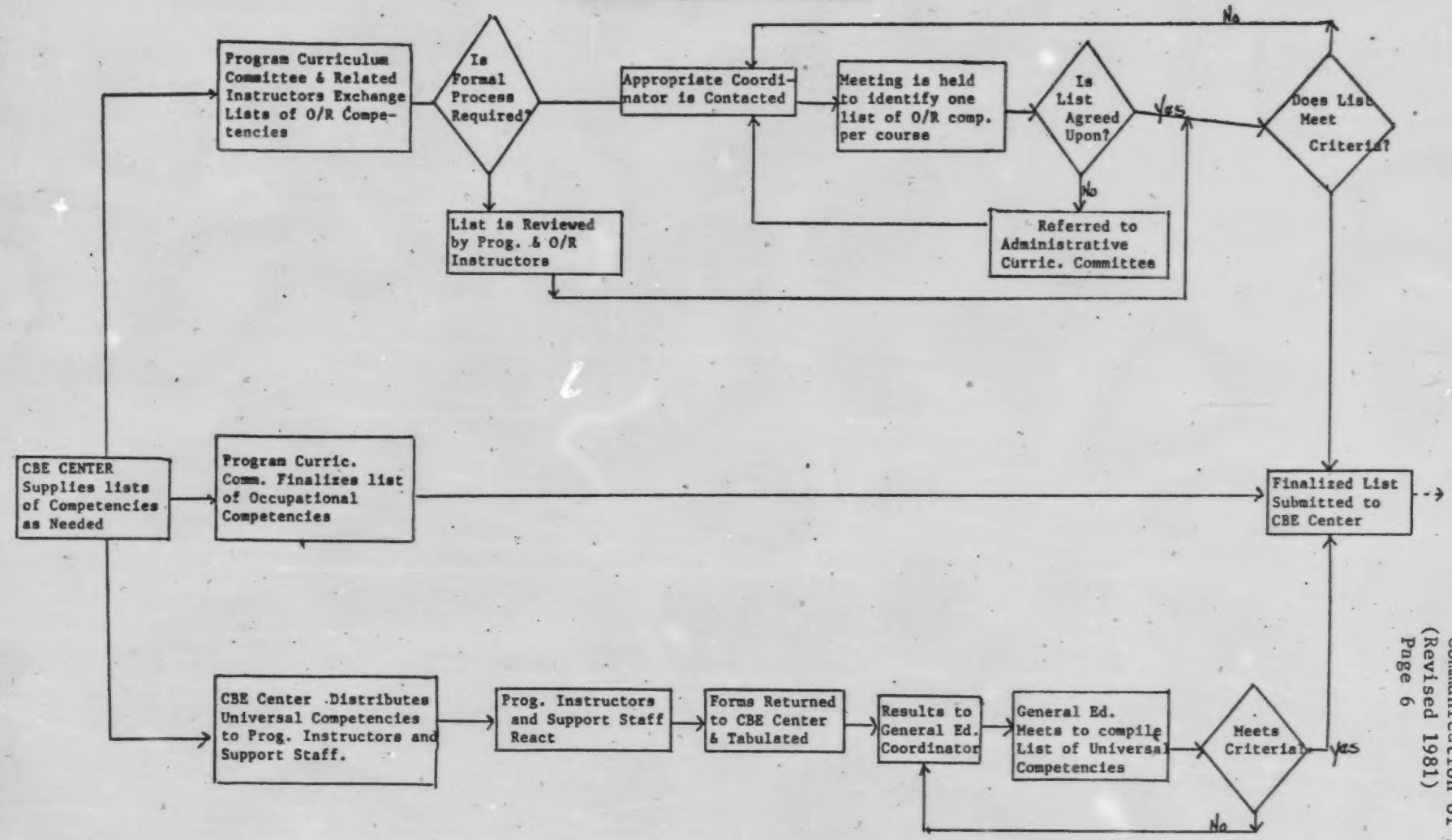
CBE Advisor of Evaluating Curriculum Committee: _____ **Evaluator:** _____

Note: A universal competency must contain these three elements:

1. It is a social, mathematics, communicative, or science competency needed by a typical adult in society.
2. It is oriented to life situations rather than to one particular program or occupation.
3. It is suitable as a requirement for all students in all degree and diploma programs.

Universal Competency	Description of Content	Is it a Universal Competency?		Is It Clearly Stated?		Comments (If "no" state why)
		YES	NO	YES	NO	

COMMUNICATION OF BROAD COMPETENCIES


Program Curriculum Committee & Related Instructors Exchange Lists of O/R Competencies
Is Formal Process Required?
List is Revieved by Prog. & O/R Instructors
Appropriate Coordinator is Contacted
Meeting is held to identify one list of O/R comp. per course
Is List Agreed Upon?
No
Referred to Administrative Curric. Committee
Yes
Does List Meet Criteria?
No
CBE CENTER Supplies lists of Competencies as Needed
Program Curric. Comm. Finalizes list of Occupational Competencies
Finalized List Submitted to CBE Center
CBE Center Distributes Universal Competencies to Prog. Instructors and Support Staff.
Prog. Instructors and Support Staff React
Forms Returned to CBE Center & Tabulated
Results to General Ed. Coordinator
General Ed. Meets to compile List of Universal Competencies
Meets Criteria?
No
Yes

VALIDATION OF BROAD COMPETENCIES

This section of the Implementation Manual concentrates on validation of the broad competencies identified and refined in the two preceding stages of CBE development. Validation of competencies is a process to determine if the competencies previously identified are indeed those required by individuals for occupational and other life situations. Validation will be done through Advisory Committees and "Match Groups."

The validation process includes:

1. Obtaining lists of validators (Advisory committee and match group members)
2. Preparing competency validation charts
3. Preparing and distributing validation paks
4. Rating of competencies by validators
5. Tabulating results of validation
6. Analyzing results
7. Compiling final report of validation
8. Obtaining approval of validated list of broad competencies

Obtaining Names of Advisory Committee Members and Members for the Match Group

Department coordinators submit to the CBE Center a list of advisory committee member's names and addresses for each of the programs they supervise. Also, each coordinator will submit to the CBE Center a list of names and addresses of non-advisory members for each program. These people will serve as the match group. The number of names submitted for a program must equal the number of advisory committee members.

Preparing Validation Charts

The CBE Center staff will prepare validation charts for all programs and general education. The validation chart for each program will include:

1. Title of the program
2. List of entry level occupations for that program
3. Directions for evaluating competencies

4. List of competencies by course title and number, listed and numbered sequentially to include:

   a. Competencies for all required courses

   b. Competencies for all electives specified on curriculum sheet

   c. Competencies for all communication and social science options as specified on curriculum sheet

5. Blank spaces to mark response for each competency: Important; Not Important; Don't Know

6. Space at the end of chart for written comments.

7. List of universal competencies grouped by General Education subject area to include:

   a. Definition of a universal competency

   b. Directions for evaluating universal competencies

   c. Blanks to mark response

   d. Space at end of chart for written comments

Sufficient numbers of validation chart will be duplicated for each member of the advisory committee and match group and for CBE Center tabulation.

Preparing of Validation Paks

Once the validation charts are compiled, validation paks will be assembled by the CBE Center and mailed to each member of a program's advisory committee and match group. Each validation pak will include:

1. Cover letter
   (Form A for Advisory Committee; Form B for Match group)

2. Validation chart

3. Stamped, self-addressed return envelope.

Rating of Competencies by Validators

Occupational and Occupationally Related (Course) Competencies

Validators will be asked to check those competencies which they feel are important to the entry level occupations. "Importance" should be determined by such factors as:

1. Criticalness of the competency. How significant is the need for the competency on the job? A competency performed poorly that results in great loss or damage should be considered more critical than one that results in simple inconvenience.

2. Frequency of performance. How often is the competency performed in a typical work situation? A competency performed daily or weekly should be considered more important than one performed yearly.

3. Amount of time involved in performance. What percentage of time on the job is spent in performing this competency? A competency that is performed for a large amount of time should be considered more important than one performed for a short period of time.

Validators may also add competencies to the chart. To add a competency to the chart, it should be written at the end of the validation charts and checked in the appropriate column. No changes should be made in the listed competencies; instead, all corrected or altered competencies should be listed at the end of the validation charts.

Universal Competencies

Each validator will be asked to check those competencies important to adult life. In rating the competencies, importance should be based on the following three criteria:

1. Is this competency a social, mathematics, communicative, or science competency needed by a typical adult in society?

2. Is it oriented to life situations rather than to one particular program or occupation?

3. Is it suitable as a requirement for all students in all degree and diploma programs?

Validators may also add competencies to the chart. To add a competency to the chart, it should be written at the end of the listing and should be given a check mark. No changes should be made in listed competencies; instead, all corrected or altered competencies should be listed at the end.

Tabulating Results of Occupational and Occupationally Related Competencies (Course)

Once the validation forms are returned to the CBE Center they will be tabulated.

Results from both the advisory committee and the matched group will be combined on a single validation chart, giving a tally of responses for each occupational and occupationally related competency.

For the occupationally related competencies, the CBE secretary will sort the responses into two categories:

1. Responses by occupational program

2. Total responses from all programs requiring that competency. Coordinators of occupationally related instructors will receive both tallies and will send them to related instructors. The curriculum committee of each program requiring the course will receive only the tally of responses from their validators.

When the curriculum committee and related instructors receive the validation results, each group must analyze the results. In analyzing the results:

1. An occupational competency must be reevaluated by the occupational program curriculum committee if it received fewer than 50% "Importants".

2. An occupationally related competency must be reevaluated by related instructors if it received fewer than 50% "Importants" for all occupational programs surveyed.

Tabulating Results for Universal Competencies

Once the validation forms are returned to the CBE Center they will be tabulated.

Results of the validation will be presented on a master validation chart with a tally of responses for each competency.

In analyzing the results, any competency receiving checks from fewer than 50% of the responding validators must be reevaluated.

Analyzing Results of Validation

When tabulation is completed the results will be sent to appropriate coordinator for distribution to curriculum committees. Attached to the tabulation report will be:

1. Cover memo to validation results explaining procedures to be followed and listing the curriculum committee members and coordinator who must approve the final list of competencies.

2. Reevaluation of competencies form to completed for competencies receiving less than 50% approval.

In reevaluating a competency, several choices are available: the competency may be restated for clarity; it may be combined with other competencies; it may be expanded; it may be deleted; or it may be left as written. Decisions regarding the competency should be made following consideration of the choices available.

Compiling Final Report of Validation

A final report of the validation process will be required of each curriculum committee. This report should be a concise explanation of the results of the validation procedure along with a final list of broad competencies. The final report should include:

1. The minutes of the curriculum committee meeting regarding the results of the validation process.

2. Specific decisions made and rationale used regarding each competency receiving approval from fewer than 50% of responding validators. Any competency which has been changed in any way must be restated and identified by the same number as the original competency.

3. A final list of broad occupational competencies.

4. A copy of cover memo with the signature of each curriculum member.

The final report should be submitted by the curriculum committee chairperson to the department coordinator. The coordinator will review the validation results and reevaluation report. If coordinators agree with the competencies and the reevaluation report they sign the cover memo and forward the report to the CBE Center. If the coordinator does not approve the report it is returned to the curriculum with comments for modification.

Obtaining Approval of Validated List of Broad Competencies

Upon receiving the validated competencies from the coordinators, the CBE Center will organize the competencies to be submitted to the Administrative Curriculum Committee. Competencies will be submitted by program, including occupational and occupationally related competencies. Occupationally related competencies will also be submitted separately by course with a list of the programs utilizing the competencies. A list of universal competencies will also be submitted.

The Administrative Curriculum Committee will review the competencies and make recommendations for approval or change. If competencies are not approved, they will be returned to the program or department coordinator for necessary changes and then returned to the Administrative Curriculum Committee for approval.

Once the Administrative Curriculum Committee has approved all occupational, occupationally related and universal competencies required for a program, these competencies will be compiled at the CBE Center. The CBE Center will forward copies of the porgram's approved competencies to the appropriate coordinator, curriculum committee and the CBE Advisor.

Clerk Typist

Broad Competency Validation Chart

Entry Level Jobs: Mail Clerk
File Clerk
Duplicating Machines Operator
General Office Clerk
Transcribing Machines Operator
Typist
Word Processor
Receptionist
Clerk Typist

Following is a list of competencies, or tasks, presently required by students of the Clerk Typist Program. Please indicate for each competency whether or not you feel the skill or knowledge is important to obtain and hold one or more of the entry level jobs listed above.

	Important	Not Important	Don't Know
Clerical Typing I 106 - 101			
1.1 Apply the touch method of typewriting to alphabetic and control keys using good stroking posture.	___	___	___
1.2 Apply the touch method of typewriting to numbers and symbols and demonstrate the ability to use various operative machine parts.	___	___	___
1.3 Apply correct word division rules to typewritten material.	___	___	___
1.4 Type 35 wpm with a maximum of 5 errors on straight copy for 5 minutes.	___	___	___
1.5 Type 44 wpm with a maximum of 5 errors on straight copy for 5 minutes.	___	___	___
1.6 Type 50 wpm with a maximum of 5 errors on straight copy for 5 minutes.	___	___	___
1.7 Center and type material horizontally and vertically.	___	___	___
1.8 Type manuscripts from straight copy and rough draft material.	___	___	___
1.9 Type various business forms.	___	___	___
1.10 Type personal or business letters using blocked letter style, and type envelopes with notations.	___	___	___
Clerical Typing II 106 - 303			
2.1 Type semi-blocked business letters with special letter parts.	___	___	___
2.2 Type tabulated material into table form.	___	___	___
2.3 Type manuscripts from straight and rough draft material using correct form.	___	___	___
2.4 Type various business forms.	___	___	___
2.5 Type business letters using special-size stationery and a variety of letter styles.	___	___	___
2.6 Type legal documents accurately using forms or ruled paper.	___	___	___
2.7 Type 48 wpm with a maximum of 5 errors on straight copy for 5 minutes.	___	___	___
2.8 Type 58 wpm with a maximum of 5 errors on straight copy for 5 minutes.	___	___	___

MEMO

TO:

FROM: CBE Center

SUBJECT: Results of Validation

DATE:

Please distribute the attached material to the members of the _____ _____Curriculum Committee and arrange for a meeting of the curriculum committee to be held within the next two weeks.

Included in this pack is the tabulation chart of the immediate validation of broad competencies for the program. The figures on the chart are a tally of the combined responses of the Advisory Committee and the identified Matched Group. The Curriculum Committee should review each broad competency and the response, determine if the competency will be taught in the program, and check the appropriate yes or no column. Each broad competency receiving fewer than 50% "Importants" from the validators should be reevaluated. Curriculum Committee should complete the chart "Reevaluation of Competencies" for all competencies with less than 50% "Importants". In addition, any competency that received more than 50% "Importants" but the Curriculum Committee determined not to teach the competency, should be added to the chart with justification for deleting it from the curriculum.

This memo should be signed by all members of the Curriculum Committee indicating that the decisions made are the consensus of the group.

Please sign this memo indicating that you have reviewed and approved the pack. Return this memo and one (1) copy of the attached charts to the CBE Center by _____. It will then be forwarded to the Administrative Curriculum Committee for final review and approval.

_____
Coordinator

cc: Ken Mills, Hugh Braun, Ralph Troeller

REEVALUATION OF COMPETENCIES

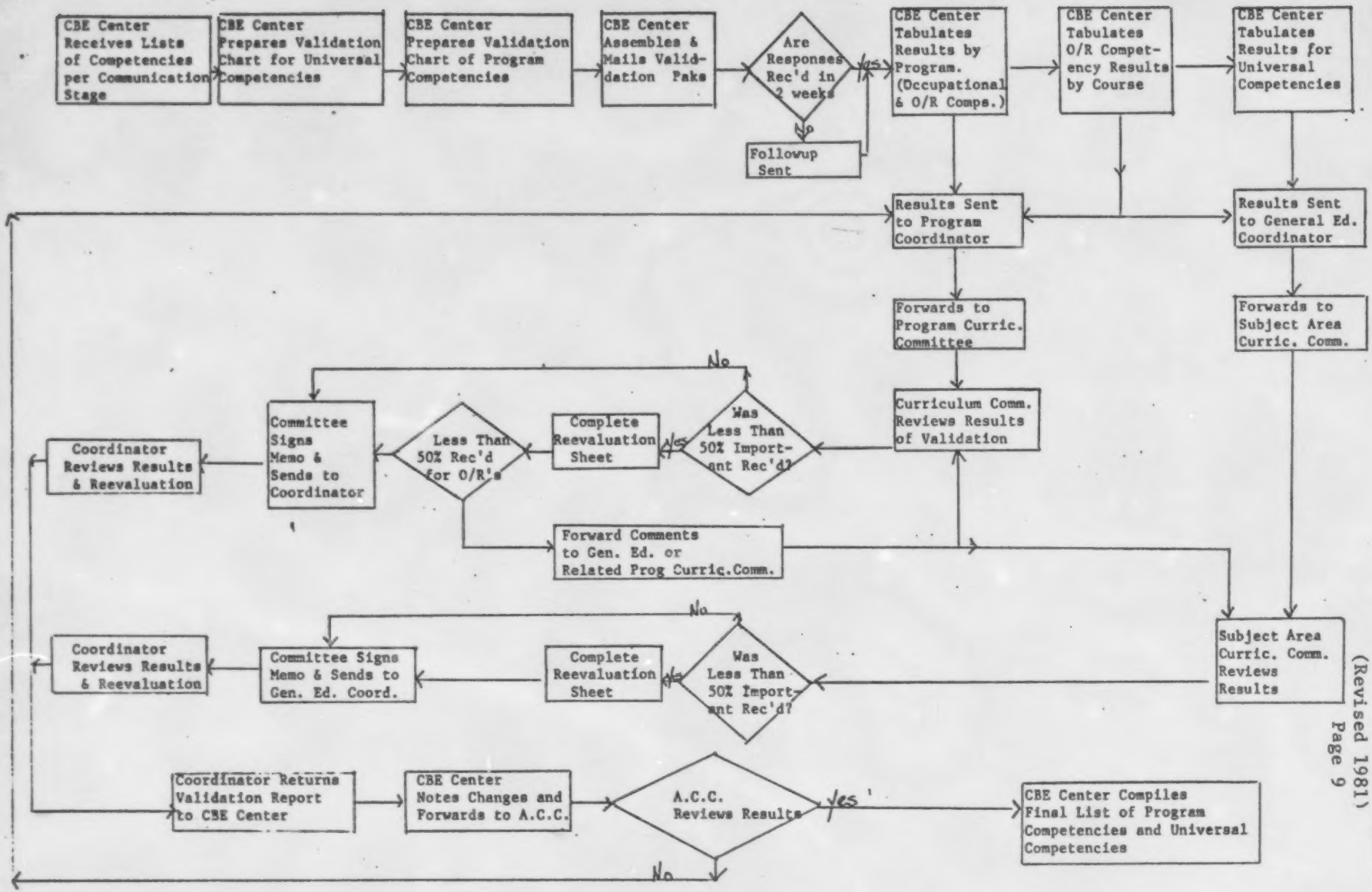
The broad competencies on this chart received fewer than 50% "Importants" from the Program Advisory Committee and identified Matched Group and must be reevaluated. In reevaluating a competency several choices are available:

1. The competency may be restated for clarity.
2. The competency may be combined with other competencies.
3. The competency may be expanded.
4. The competency may be deleted.
5. The competency may be left as written.

Please complete this chart for each competency listed. Write a brief decision statement and the rationale for the decision regarding each competency.

Comp. #	Comp. Statement	Decision & Rationale	PROGRAM CURR. COMM. COMPETENCY WILL BE TAUGHT Yes	PROGRAM CURR. COMM. COMPETENCY WILL BE TAUGHT No	ADM. CURR. COMMITTEE COMPETENCY WILL BE TAUGHT Yes	ADM. CURR. COMMITTEE COMPETENCY WILL BE TAUGHT No

VALIDATION OF BROAD COMPETENCIES


CBE Center Receives Lists of Competencies per Communication Stage
CBE Center Prepares Validation Chart for Universal Competencies
CBE Center Prepares Validation Chart of Program Competencies
CBE Center Assembles & Mails Validation Paks
Are Responses Rec'd in 2 weeks
Yes
No
Followup Sent
CBE Center Tabulates Results by Program. (Occupational & O/R Comps.)
CBE Center Tabulates O/R Competency Results by Course
CBE Center Tabulates Results for Universal Competencies
Results Sent to Program Coordinator
Results Sent to General Ed. Coordinator
Forwards to Program Curric. Committee
Forwards to Subject Area Curric. Comm.
Curriculum Comm. Reviews Results of Validation
Was Less Than 50% Important Rec'd?
Yes
No
Complete Reevaluation Sheet
Less Than 50% Rec'd for O/R's
Committee Signs Memo & Sends to Coordinator
Coordinator Reviews Results & Reevaluation
Forward Comments to Gen. Ed. or Related Prog Curric.Comm.
Subject Area Curric. Comm. Reviews Results
Was Less Than 50% Important Rec'd?
Yes
No
Complete Reevaluation Sheet
Committee Signs Memo & Sends to Gen. Ed. Coord.
Coordinator Reviews Results & Reevaluation
Coordinator Returns Validation Report to CBE Center
CBE Center Notes Changes and Forwards to A.C.C.
A.C.C. Reviews Results
Yes
No
CBE Center Compiles Final List of Program Competencies and Universal Competencies

GATEWAY TECHNICAL INSTITUTE

Kenosha Campus
District Office:
3520 - 30th Avenue
Kenosha, Wi. 53140
Phone: (414) 658-4371

Racine Campus
1001 South Main Street
Racine, Wi. 53403
Phone: (414) 637-9881

Elkhorn Campus
E. Centralia St. & Hwy. H
Elkhorn, Wi. 53121
Phone: (414) 723-5390

Keith W. Stoehr
District Director

Dear Advisory Committee Member:

WE NEED YOUR ASSISTANCE!

Gateway Technical Institute is presently implementing Competency Based Education as another method of evaluating and reorganizing the content of the programs. In addition, this process should improve instruction. Gateway defines a competency as, "a cluster of related skills and/or knowledges which are associated for a common purpose or end." This means that the basic unit of instruction will be a competency which will be directly related to the occupational requirements on the job and to the individual's needs in our society. Students will be assessed on how well these competencies are achieved.

Instructors are now in the process of developing lists of competencies which they feel are important for students to achieve. Drawing from available resources, each program instructor has written competencies for each occupation taught in the program. The next step in this process is to have these competencies validated by outside sources. This is vital in order to insure that those competencies taught are indeed the competencies required on the job.

You, as an advisory committee member, are in a unique position to aid in this validation process. All advisory committee members are being asked to review the competencies for their respective programs and to rate the importance of these competencies. This will give Gateway a firm basis for continued development of CBE.

Enclosed is a validation form with directions on how to rate competencies. Results from this validation will give instructors valuable information on each competency for each occupation taught. Please complete this validation form and return it to Gateway in the stamped, self-addressed envelope provided.

Your cooperation and assistance are greatly appreciated.

Sincerely,

Keith W. Stoehr
District Director

mr
Enclosures

GATEWAY TECHNICAL INSTITUTE
Equal Opportunity Employer/Program

District Office
Kenosha Campus
3520 - 30th Avenue
Kenosha, WI 53142
Phone: (414) 552-9600

Racine Campus
1001 South Main Street
Racine, WI 53403
Phone: (414) 637-9881

Elkhorn Campus
E. Centralia St. & Hwy. H
Elkhorn, WI 53121
Phone: (414) 723-5390

WGTD - FM 91.1
3520 - 30th Avenue
Kenosha, WI 53142
Phone: (414) 552-9483

Keith W. Stoehr
District Director

Dear Friend of Gateway:

WE NEED YOUR ASSISTANCE!

Gateway Technical Institute is presently implementing Competency Based Education as another method of evaluating and reorganizing the content of the programs. In addition, this process should improve instruction. Gateway defines a competency as, "a cluster of related skills and/or knowledges which are associated for a common purpose or end." This means that the basic unit of instruction will be a competency which will be directly related to the occupational requirements on the job and to the individual's needs in our society. Students will be assessed on how well these competencies are achieved.

Instructors are now in the process of developing lists of competencies which they feel are important for students to achieve. Drawing from available resources, each program instructor has written competencies for each occupation taught in the program. The next step in this process is to have these competencies validated by outside sources. This is vital in order to insure that those competencies taught are indeed the competencies required on the job.

You, as a member of this business, industrial and service community, are in a unique position to aid in this validation process. Several of your colleagues in the community are also being asked to review the competencies in program areas related to their occupation and to rate the importance of these competencies. This will give Gateway a firm basis for continued development of CBE.

Enclosed is a validation form with directions on how to rate competencies. Results from this validation will give instructors valuable information on each competency for each occupation taught. Please complete this validation form and return it to Gateway in the stamped, self-addressed envelope provided.

Your cooperation and assistance are greatly appreciated.

Sincerely,

Keith W. Stoehr
District Director

mr
Enclosures

BROAD COMPETENCY MODULE

Previous sections of the Implementation Manual presented the procedures for identifying, revising, and validating broad occupational, occupationally related and universal competencies. This section of the Implementation Manual will describe the procedures for developing specific learning outcomes from the validated broad competencies and organizing these outcomes into instructional units or modules.

For each broad competency one broad competency module will be developed. The module will outline to the student what he or she will do to attain the broad competency and to demonstrate this attainment. The unit module, therefore, will contain the following parts:

1. Title page
2. Broad competency
3. Overview
4. Content topics
5. Learning outcomes
6. Assessment
7. Learning activities
8. Learning resources

PARTS OF THE BROAD COMPETENCY MODULE

Title Page

Each module will have a title page containing information to identify the module. Course title and number, broad competency, name of developer and date of development are included.

Broad Competency

The broad competencies are the general behavioral statements describing the knowledges, skills and/or attitudes the student must exhibit upon successful completion of the course or program. For each validated broad competency, one broad competency module must be developed.

Overview

The overview orientates the student to the value of the module. It may include motivational statements and an explaination of how this module relates to other modules in this course or program.

Content Topics

Content is the information, skills, and attitudes to be included in the module. Careful attention should be given to listing what the student is to learn, not how the instructor will present the content. All content selected for the module should be related to the broad competency. Content description should be clustered into general content topics.

Learning Outcome

The learning outcome tells the student what behavior must be exhibited. It is the overt performance that is accepted as evidence that the student has attained that element of the broad competency. Learning outcomes should not be confused with the activities the student will engage in to master the outcome. Each general topic in the content section must have an accompanying learning outcome. Mastery of all the learning outcomes included in the module must result in achievement of the broad competency. When identifying learning outcomes, consider how the student will be required to demonstrate attainment of the outcome.

Assessment

Assessment is evaluation of student performance. Sufficient assessment of learning outcomes must be made to evaluate student attainment of the broad competency. To indicate to the students the conditions under which they will be assessed and according to what standards, the following should be stated:

1. Methods of Assessment

   For each module, at least one method of assessment must be stated. There are many methods of assessment including objective and essay tests, student demonstration of a process, problem solving and writing reports.

2. Conditions/Limitations

   Conditions/limitations are the "givens" in the assessment procedure. They describe the circumstances under which the student must demonstrate the learning outcome. Conditions/limitations may include one or more of the following:

   - .Special supplies, materials, or equipment.
   - .Conditions or limitations stated in prior modules, competencies, or activities.
   - .Location where the competency is to be evaluated.
   - .Use of references, study guides, or information sheets.
   - .Any other limitations unique to assessing the competency.

3. Criteria of Acceptable Performance

These describe standards by which acceptable student achievement of learning outcomes will be measured. Performance criteria may include one or more of the following:

- Time limit or rate of performance required for the competency.
- Instructor checklists, reference sources, or requirements of licensing agencies or regulatory bodies.
- The number of responses required.
- The percent of total responses that should be correct.
- The person or persons who will judge or evaluate the performance.

The methods of assessment, conditions/limitations and criteria of acceptable performance must be stated in the course for the student to see. They need not be restated in successive modules if they remain identical throughout the course. They must be stated in a module if they vary for different learning outcomes.

Learning Activities

Learning activities are those learning experiences planned and guided by the instructor and engaged in by students to enable them to attain the learning outcomes. Learning activities include reading assignments, completing worksheets, completing individualized learning packages, viewing audiovisual materials and attending lectures. Only those activities leading to attainment of the learning outcomes should be included in the module. For a list of additional learning activities, see the "Individualized Learning Package" section of the Implementation Manual.

Learning Resources

Learning resources are persons or things used to attain the learning outcomes. Learning resources may include textbooks, equipment, audiovisual materials, field trips, worksheets, guest lectures. Learning resources should be listed with learning activities. For references: be specific.

Books: author, title, edition, chapter and pages.
Periodicals: author, title of article, title of magazine, date of issue, and pages.
Audiovisual material: form, title.

HOW TO DEVELOP THE BROAD COMPETENCY MODULE

In developing the broad competency module, you may refer to the example on pages 9-11.

Title Page

The title page should be prepared to include the following:

1. Gateway Technical Institute
2. Program if module is used in only one.
3. Course title and number
4. Broad competency for which the module is written.
5. Name of developer and date of development.

When revisions are made, the name of the revisor and date of revision should appear below the original name and date of development.

Broad Competency

Begin the body of the broad competency module by stating the broad competency for this module.

Example: Trace the development of fashion creation.

Example: Describe the characteristics of the infant during the first two years after birth.

Overview

The overview is usually one paragraph following the broad competency statement.

Example: Board Competency: Describe the characteristics of the infant during the first two years after birth.

Overview: For the student in psychology, a foundation in growth and development is vital. Knowledge of the principles of growth and development is essential to understanding life processes of individuals from birth to death. The following module describes the principles of growth and development in the first two years after birth. This module is the first module in a series of ten, relating to growth and development.

Example: Broad Competency: Trace the development of fashion creation.

Overview: A knowledge of the development of fashion creation and the contribution of fashion creators is essential to understand today's fashion industry. In this module you will study the development of fashion design, the contributions of prominent designers, and the differences in fashion design in different fashion centers of the world.

Note: Next, decide whether you wish to first identify learning outcomes, then the content topics or to first identify content topics, then learning outcomes. For this example, content topics are identified first.

Content Topics

1. Content List.

In preparation for developing the content topics for the module, list all topics, procedures or information that will be in the module.

Example: Broad Competency:
Trace the development of fashion creation.

Content List:
Haute couture and its future
Pret a porter
French designers
Importance of Paris as a place for fashion creativity

Chambre Synicale de la Couture Parisienne
French fashion: Middle ages - 1800, 1800-1870, 1870-contempory
American design: before WWI, WWI-WWII-present
American designers
Comparison of French and American fashion creation
Other world fashion creation centers
Organization of haute couture houses
Qualifications of haute couture houses

2. Content Topics

Cluster content items from the content lists under general content topics and list these in the module. They should be sequentially listed in the order in which they will be presented in the unit. Subtopics may be listed where greater detail is desired.

Example: Broad Competency: Trace the development of fashion creation

Example: Content List:
Haute couture and its future
Pret a porter
French designers
Importance of Paris as a place for fashion creativity

Example: Content Topics:
1. Influence of French fashion design
Reasons why Paris is important
Haute couture

Chambre Synicale de la

Couture Parisienne
French Fashion: Middle Ages
1800, 1800-1870 contemporary
American design: pre WWI
WWII, WWI to present American
designers
Comparison of French and
American fashion creation
Other world fashion centers
Organization of haute couture
houses
Qualifications of haute
couture houses

Chambre Synical de la

Couture Parisienne

2. History of French design
   Middle ages to 1800
   1800-1870
   1870-contemporary

3. Contemporary French design
   and designers
   Major designers
   Pret a porter
   Future of haute couture
4. History of American design
   Before WWI, WWI-WWII

5. Contemporary American
   design and designers
   Major designers since
   WWII

6. Comparison of French and
   American fashion creation

7. Other world fashion
   creation centers

Learning Outcome

For each general content topic, a learning outcome must be stated. These outcomes must be behaviorally stated to describe what the student must do to prove attainment.

Example: Broad Competence:
Trace the development of fashion creation.

Example: Learning Outcomes:
1. Explain the influence and organization of the French fashion design industry.
2. Trace the history of French design from the Middle Ages to the present.
3. Describe the contributions of prominent French designers.
4. Trace the history of American design from the 1700's to the present.
5. Identify the contributions of prominent American designers since WWII.
6. Compare and contrast French and American fashion creation.
7. List world fashion creation centers - other than Paris - and describe what they are known for.

Assessment

Every effort should be made to assess each learning outcome in the module. If it is not possible to assess each learning outcome, select those outcomes that best enable the instructor to judge the attainment of the broad competency.

1. Method of Assessment:

Choose the most appropriate method or methods of assessing student achievement of the broad competency. At lease one method must be stated in the module.

Example: Assessment:
Objective Test and Research Report

2. Conditions/Limitations and Criteria of Acceptable Performance

Consider whether different conditions/limitations and criteria of acceptable performance need to be stated in this module. If they do not vary within or between modules, they need not be stated in every module. If different conditions/limitations and criteria of acceptable performance are used within or between modules they should be stated for clarity.

Example: Conditions/Limitations:

Objective test - no references, 1 hour, secure exam.
Research report: 1 typed page on each of two designers from list given by instructor, citing at least two references for each designer.

Example: Criteria of Acceptable Performance:

Objective test as stated in first module. Research report: according to instructor rating sheet.

Learning Activities

For each learning outcome at least one learning activity must be listed. List every activity designed for the student to master the learning outcome. Listed here would be such activities as attend lecture, attend laboratory demonstration, read chapter in text, solve problems, complete worksheets, view audio-visual material. General information is sufficient. However, the instructor may wish to provide more specific information such as page numbers, problem numbers, etc.

Example: Content Topic

Influence of French fashion design

Example: Outcome

Explain the influence and organization of the French fashion design industry

Example: Activities

Attend lecture.
View slide/tape.
Read pages 25-42.

Learning Resources

Identify the key materials to be used by students in the module. List textbook once in the module by author and title as well as chapter; audio-visual by format and title; handout by title or number.

Example: Midlady - Evolution of Fashion - slide/tape
Handout: "Events in Fashion History"
(Textbook) LaSalle - History of Fashion - Chapter 4

If a problem of rapid changes in textbook editions exists an alternative to the suggested format in the Learning Activities Column may be used.

Learning Activities Column - do not refer to page numbers or chapter numbers. Instead state: "Read the appropriate pages in _____." This applies to books only, either textbooks or supplementary books.

Citations in Resources Column remain the same.

EXAMPLE ALTERNATIVE FORMAT:

Content Topic	Learning Outcome	Learning Activities	Resources
1. Chromosomes and genes	1. Explain the functions of chromosomes and genes.	1. Read approrpiate pages in text. Attend lecture. View filmstrip. Read handout.	1. Text: Coon, D. Introduction to Psychology Filmstrip: Mediamakers. Basis of Inheritance Handout: 1

EXAMPLE OLD FORMAT:

Content Topic	Learning Outcome	Learning Activities	Resources
1. Chromosomes and genes	1. Explain the functions of chromosomes and genes.	1. Read text, Chapter 1, pp. 5-14. Attend lecture. View filmstrip.	1. Text: Coon, D. Introduction to Psychology Filmstrip: Mediamakers. Basis of Inheritance

Gateway Technical Institute

Program: FASHION MERCHANDISING

Course: TRENDS IN FASHION MERCHANDISING 104-122

Broad Competency Modules # 1

TRACE THE DEVELOPMENT OF FASHION CREATION

Approved By:

Robert Sullivan, chair 9/3/78
Curriculum Committee (Date)

9/24/79
Department Coordinator (Date)

K. Cook 7/14/78 APPROVED - CBE 8/78
CBE Advisor(Date)/CBE Center(Date)

APPROVED - ACC 12/78
Administrative Curriculum (Date)
Committee

Developed by:
Kathy Fiamona

June 7, 1978
(Date)

BROAD COMPETENCY: Trace the development of fashion creation.

OVERVIEW: A knowledge of the development of fashion creation and the contribution of fashion creators is essential to understanding today's fashion industry. In this module you will study the development of fashion design, the contributions of prominent designers, and the differences in fashion design in different fashion centers of the world.

CONTENT TOPICS	LEARNING OUTCOMES	LEARNING ACTIVITIES	RESOURCES
1. Influence of French fashion design Reasons why Paris is important Haute couture Chambre Synical de la Couture Parisienne	1. Explain the influence and organization of the French fashion design industry.	1. Attend lecture. Read text, Chapter 3.	1. Text: LaSalle. Theory of Fashion
2. History of French design Middle Ages to 1800 1800-1870 1870-contemporary	2. Trace the history of French fashion design from the Middle Ages to the present.	2. View slidetape. Read appropriate chapter in text.	2. Slidetape: Fairchild Visuals. Evolution of French Fashion Text
3. Contemporary French design and designers Major designers Pret a porter Future of haute couture	3. Describe the contributions of prominent French designers.	3. Attend lecture. Read text, Chapter 3. Write research report.	3. Same as #1 above Materials available in LRC
4. History of American design Before WWI WWI-WWII	4. Trace the history of American design from the 1700-s to the present.	4. Read text, Chapter 4. View slidetape.	4. Text Slidetape: Milady. 200 Years of American Fashion
5. Contemporary American design and designers Major designers since WWII	5. Identify the contributions of prominent American designers.	5. Attend lecture. Read text, Chapter 4. Write research report.	5. Text Materials available in LRC

CONTENT TOPICS	LEARNING OUTCOMES	LEARNING ACTIVITIES	RESOURCES
6. Comparison of French and American fashion creation	6. Compare and contrast French and American fashion creation.	6. Attend lecture. Complete study guidesheet #1.	6. Study guide sheet #1
7. Other foreign fashion creation centers	7. List foreign fashion creation centers - other than Paris - and describe what each is known for.	7. Complete Individualized Module Package.	7. I.L.P.: "World Fashion Centers"

ASSESSMENT: Objective test; Research report.

CONDITIONS/LIMITATIONS: Objective test: Secure exam, no references, 1 hour; Research report: One typed page on each of two designers chosen from list given by instructor, citing at least two references each.

CRITERIA OF ACCEPTABLE PERFORMANCE: Objective test: As stated in first module; Research report: According to instructor's rating sheet.

Format of Broad Competency Modules

This paper is designed to aid the person who is writing modules. Individual assistance is available from your CBE advisor.

This paper lists format requirements for broad competency modules. It is divided into four sections, one for each of the columns of the broad competency module: content topics, learning outcomes, learning activities, and learning resources.

I. Content Topics

A. Number content topics with Arabic numberals.

Ex: 1. Genetic defects
2. Genetic counseling
3. Genetic engineering

B. Capitalize only the first word except for proper names.

Ex: 1. Military nursing orders
2. Nursing in early America
3. Contributions of Clara Barton

C. Content topics are nouns and their descriptors; do not use action verbs.

Ex: 1. Letter parts
2. Blocked business letter

D. Carry-overs should not be indented; they should be kept flush on the left side.

Ex: Fingerprint pattern
areas and classification
points

E. Sub-topics, if used, should be indented one space.

Ex: Genetic defects
Methods of transmission
Common types of defects

F. If several long sub-topics are listed, use spacing to separate them.

Ex: Identify the following:
Administrator, Wisconsin
Board of Nursing

Secretary, Wisconsin
Division of Nurses

G. No periods are to be used after content topics.

II. Learning Outcomes

A. Number learning outcomes with the same Arabic numerals as their content topics.

Ex: Content Topics	Learning Outcomes
1. Letter parts	1. Explain various parts of a letter.
2. State abbreviations	2. Locate and use two-letter state abbreviations.

B. Capitalize only the first word except for proper names.

C. Learning outcomes should be behaviorally stated. Use an action verb. See page 5 of the "Identification of Broad Competencies" section of the Implementation Manual for an extensive list of action verbs.

D. Carry-overs should not be indented; they should be kept flush on the left side.

E. Sub-outcomes, if used, should be indented one space.

F. If several long sub-outcomes are listed, use spacing to eliminate confusion.

G. Use a period at the end of each learning outcome.

III. Learning Activities

A. Number learning activities with the same Arabic numerals as their content topics and learning outcomes.

B. Capitalize only the first word except for proper names.

C. Use consistent format, always including an action verb.

Ex: Read pp. 15-21.
Attend lecture.
Complete worksheet.

D. Page or chapter numbers are to be included along with the type of activity.

Ex: Read pp. 15-21.
Read Chap. 6.

E. Specific titles are not written in the Learning Activities column; they are written in the Learning Resources column.

F. Carry-overs should not be indented, they should be kept flush on the left side.

G. If several long entries are made in the Learning Activities column, use spacing to eliminate confusion.

H. Use a period at the end of each learning activity.

IV. Learning Resources

A. Number learning resources with the same Arabic numerals as their content topics, learning outcomes and learning activities.

B. Carry-overs should not be indented; they should be kept flush on the left side.

C. If several resources are listed, use spacing to eliminate confusion.

D. If any unusual supplies are needed, they may be listed in this column.

E. Locations of learning resources may be listed if they are unusual.

F. No periods are to be used after learning resources.

G. Types of learning resources

1. Books
   a. Single text
      1) First citation in module:
         a) Cite by author and title.
         b) Include edition when applicable.
         c) Ex: LaSalle. History of Fashion, 3rd ed.
      2) Use term "Text" for further citations in the module.
   b. Multiple texts
      1) First citation - as above.
      2) Further citations - use author's last name.
      3) Examples:

         First citation in module:
         La Salle. History of Fashion. 3rd ed.
         Smith. Art and Dress

         Further citations:
         La Salle
         Smith

   c. Other books used as references
      1) Cite by author and title.
      2) Include edition if applicable.
      3) For additional citations in the same module for the same book, use author's last name.

2. Audiovisual materals
   a. State format and title (underline title).
   b. Ex: Filmstrip/Cassette: Hospital Story
      16 mm Film: Undercover Story
      Videotape: Keep it Sterile

3. Handouts (learning exercises, worksheets, information sheets, work guides, etc.)

a. List by type and title or number (title in quotation marks).
b. Ex:
   1) Handout: "Rules of Care"
   2) Worksheet: 31
   3) Lab experiment sheet: "Acids and Bases"

4. Periodical articles
   a. Give author, title of article, title of periodical, and date.
   b. Example:
      Atkins. "Diet or Die," Slenderella Journal, Nov. 1979

Checklist for Format and Style

The previous section of the Implementation Manual described the Broad Competency Module and how it should be developed. To further assist instructors in developing and evaluating modules, the Broad Competency Module Checklist for Format and Style is provided. All modules must meet every element noted under Format and Style.

Sample Modules

In addition to the sample module shown in the preceding section of the Implementation Manual, several additional samples are provided representing business education, general education, health occupations, and trade and industry.

Broad Competency Module: Approval Procedures

Upon completion of a module, instructors must obtain approval from their CBE advisors and from the CBE Center for adherence to format and style requirements. Once the format and style are acceptable, the module must be approved by the appropriate curriculum committee and coordinator. Broad competency modules receiving all of these approvals will then be submitted to the Administrative Curriculum Committee for their approval.

BROAD COMPETENCY MODULE

Checklist for Format and Style

FORMAT
Check for the presence of the following elements:

Title Page

	YES	NO
1. Gateway Technical Institute		
2. Program if module is used in only one		
3. Course title		
4. Course number		
5. Broad competency		
6. Name of developer(s)		
7. Date of development		

Body of the Module

1. Broad competency		
2. Overview		
3. Content topic column		
4. Learning outcome column		
5. Learning Activities		
6. Resources		

Assessment

1. Method		
2. Conditions/Limitations		
3. Criteria of acceptable performance		

STYLE
Check each element for the following:

Title Page

	YES	NO
Broad Competency a. Identical to broad competency from approved list		

Body

		YES	NO
1. Broad competency	Identical to broad competency stated on title page		
2. Overview	a. Describes content of the modules		
	b. Describes value of the module		
3. Content topic	Describes what is to be learned		
4. Learning Outcome	a. States what the student must attain		
	b. Behaviorally stated		
	c. At least one for each content topic		
	d. Outcomes lead to attainment of broad competency		
5. Learning Activities	a. States what the student must do to learn the content		
	b. At least one for each content topic		
6. Resources	a. Properly identifies resources		
	b. Identifies location if it adds clarity		

Assessment

		YES	NO
1. Method	a. At least one is stated		
	b. Appropriate to learning outcomes		
2. Conditions/ Limitations	Circumstances of assessment are stated if different from other modules		
3. Criteria	Standards of performance are stated if different from other modules		

GATEWAY TECHNICAL INSTITUTE

Machine Tool Operation Program

Course: Machine Operations 420-302

Broad Competency Module #1

Mill Keyseats

Approved By

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____
CBE Advisor (Date)/CBE Center (Date)

_____
Administrative Curriculum Committee (Date)

Developed by:
Rich Gizelbach
October 1978

BROAD COMPETENCY: Mill keyseats.

OVERVIEW: Milling keyseats is an operation quite common and essential in the operation of a vertical and horizontal milling machine. Keyseats are machined on shafts to provide a means of securing a gear or pulley in order to obtain positive drive.

CONTENT TOPICS	LEARNING OUTCOMES	LEARNING ACTIVITIES	RESOURCES
1. Specifications of keyseats	1. Interpret tables on keys and keyways.	1. Attend lecture. Use tables in handbook.	1. Machinery's Handbook
2. Selection of speed, feed, and depth of cut	2. Calculate speed, feed, and depth of cut.	2. Attend lecture.	2.
3. Milling straight keyseat	3. Given a blueprint, reference material, vert. milling mach., 2-lip end mill, and round stock, select proper speed, feed, and depth of cut and setup and perform the operation of milling a straight keyseat.	3. Read pp. 288-290. Observe teacher demonstration. Complete student project.	3. Farr. Technology of Machine Tools, 2nd ed. Supplies for student project: Blueprint Vertical milling machine Two-lip end mill Round stock
4. Milling woodruff keyseat	4. Given a blueprint, reference material, vert. milling mach., woodruff key cutter, and round stock, select proper speeds, feeds, and depth of cut, setup and perform the operation of milling a keyseat.	4. Read pp. 364-368. Observe teacher demonstration. Complete student project.	4. McCarthy & Smith. Machine Tool Technology Supplies for student project: Blueprint Vertical milling machine Woodruff key cutter Round stock

ASSESSMENT: Exercises graded by instructor per blueprint specifications.

CONDITIONS/LIMITATIONS: Stated in learning resources.

CRITERIA OF ACCEPTABLE PERFORMANCE: Must meet blueprint specifications and specifications in Machinery Handbook.

GATEWAY TECHNICAL INSTITUTE

POLICE SCIENCE PROGRAM

COURSE: CRIMINAL INVESTIGATION II 504-150

Broad Competency Module #1

IDENTIFY THE ESSENTIAL ELEMENTS
REQUIRED IN THE IDENTIFICATION AND CLASSIFICATION
OF FINGERPRINTS AND DEMONSTRATE THE CLASSIFICATION PROCEDURES.

Approved By

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____ /
CBE Advisor (Date)/CBE Center (Date)

97

_____
Administrative Curriculum (Date)
Committee

Developed by:
Gilmore T. White
October 3, 1978

98

BROAD COMPETENCY: Identify the essential elements required in the identification and classification of fingerprints and demonstrate the classification procedure.

OVERVIEW: The collection and preservation of evidence is one of the main concepts of law enforcement. This unit is designed to assist law enforcement personnel in recognizing fingerprints which should be collected and preserved as an aid in the investigative process.

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
1. The history of fingerprints	1. Trace the history of fingerprints from 1600 to the present.	1. Attend lecture. Read handbook.	1. FBI. Fingerprint Identification
2. Fingerprint patterns	2. Identify the five basic fingerprint patterns.	2. Attend lecture with transparencies. View slide/tape. Read handouts. Read pp. 1-85.	2. Transparencies: "Fingerprints" Slide/tape: The Identifying Characteristics of Fingerprints Handouts: #1 Fingerprint Patterns Fingerprint cards 1-10 FBI. Science of Fingerprints
3. Fingerprint pattern areas and classification points	3. Identify the core and delta/deltas in loops and whorls - count and trace each pattern.	3. Attend lecture. Read pp. 1-85. View slide presentation. Take quiz on fingerprint definitions. Students use chalkboard to put up pattern identification.	3. FBI. Science of Fingerprints Slide/tape: "Identification of Cores and Deltas - Ridge Counts and Whorl Tracings" Fingerprint cards 1-10

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
4. Classification process	4. Given cards 1-10, identify the primary, secondary, sub-secondary, major, final, and key for each fingerprint.	4. Students place results on chalkboard one at a time, each using a different card. Read pp. 85-132.	4. Fingerprint cards 1-10 FBI. Science of Fingerprints
5. Classification process	5. Given cards 11-20, identify the primary, secondary, sub-secondary, major, final, and key for each fingerprint.	5. Students place results on chalkboard one at a time, each using a different card. Read pp. 85-132.	5. Fingerprint cards 11-20 FBI. Science of Fingerprints
6. Classification process	6. Given cards 21-30, identify the primary, secondary, sub-secondary, major, final, and key for each fingerprint.	6. Students place results on chalkboard one at a time, each using a different card. Read pp. 85-132.	6. Fingerprint cards 21-30 FBI. Science of Fingerprints
7. Classification process	7. Given cards 31-40, identify the primary, secondary, sub-secondary, major, final, and key for each fingerprint.	7. Students place results on chalkboard one at a time, each using a different card. Read pp. 85-132.	7. Fingerprint cards 31-40 FBI. Science of Fingerprints
8. Classification process	8. Given cards 51-510, describe the correct procedure to be used for missing at birth or amputated fingers--complete the entire classification process.	8. Students place results on chalkboard one at a time, each using a different card. Read pp. 85-132.	8. Fingerprint cards 51-510 FBI. Science of Fingerprints

METHOD OF ASSESSMENT: Objective test, fingerprint classification.

CONDITIONS/LIMITATIONS: Objective Test - 2 hours - 5 fingerprint cards - equipment - fingerprint card and a ridge conversion chart.

CRITERIA OF ACCEPTABLE PERFORMANCE: Objective test - Overall average of 85% on the five fingerprint cards.

GATEWAY TECHNICAL INSTITUTE

GENERAL PSYCHOLOGY: 809-150

Module #5

BROAD COMPETENCY: EXPLAIN THE ROLE OF HEREDITY IN HUMAN DEVELOPMENT

Approved By

Developed by:
Marilyn Finneman
October 1978

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____ _____/_____
CBE Advisor (Date)/CBE Center (Date)

_____
Administrative Curriculum Committee (Date)

BROAD COMPETENCY: EXPLAIN THE ROLE OF HEREDITY IN HUMAN DEVELOPMENT

OVERVIEW: A knowledge of heredity is essential to understanding an individual's unique strengths and limitations. In this module you will study the methods by which traits are passed on from generation to generation, the interaction of environment with heredity, and new developments in the field of heredity.

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
1. Diversity and adaptability	1. Describe the relationship of diversity to adaptability.	1. Read text, Unit 1. Attend lecture/ discussion.	1. Krech, et. al. Elements of Psychology, third edition
2. Chromosomes and genes Relation of chromosomes, genes, and DNA Number necessary Number from each parent	2. Explain the functions of chromosomes and genes.	2. Read Unit 1. Attend lecture/ discussion.	2. Text
3. Variety of sperms and ova of same parents Germ cells Crossing over Family differences and likenesses Clones Importance of environment	3. Explain the causes and effects of genetic variety and similarity within the offspring of a single pair of parents.	3. Read Unit 1. Attend lecture/ discussion.	3. Text
4. Twins Types Importance of research with identical twins	4. Describe the genetic difference between fraternal and identical twins.	4. Read Unit 1. Attend lecture/ discussion	4. Text

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
5. Dominance and recessiveness General principles Performing simple calculations	5. Calculate the statistical probability of the transmission of several dominant and recessive traits.	5. Complete worksheet.	5. Worksheet: "Dominant and Recessive Genes"
6. Genetic defects Methods of transmission Common types of defects	6. List at least one common genetic defect for each of the 3 major methods of transmission.	6. Read hand-out.	6. Hand-out: "Genetic Counseling"
7. Environment When its influence begins Duration of effect Interation with heredity	7. Describe the influence of environment, the possible duration of its effect, and its interation with heredity.	7. Read Unit 1.	7. Text
8. Behavior genetics As distinct from instincts Animal findings Human findings	8. Define "behavior genetics" and describe current animal and human findings.	8. Read Unit 1.	8. Text
9. Genetic counseling	9. Define "genetic counseling", describe its basic methods, and its possible good and bad results.	9. Read Unit 1. Attend lecture/ discussion.	9. Text
10. Genetic engineering Definition Good and bad results	10. Define "genetic engineering and describe possible good and bad results of its use.	10. Read Unit 1. Attend lecture/ discussion.	10. Text
		11. Take ungraded self-test of entire module.	11. Self-test: #5, "Heredity"

METHOD OF ASSESSMENT: Unit Quiz -- objective and short discussion questions.

CONDITIONS/LIMITATIONS: Secure test, no references, 30 minutes.

CRITERIA OF ACCEPTABLE PERFORMANCE: Percentage grades as stated in module one.

Gateway Technical Institute

Mechanical Design Program
Industrial Engineering Technician Program

Course - Technical Drafting I 606-101

Broad Competency Module #2

Draw Various Geometric Forms

Approved By

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____
CBE Advisor (Date)/CBE Center (Date)

_____
Administrative Curriculum (Date)
Committee

By: Merlin Cayemberg
October 3, 1978

Broad Competency: DRAW VARIOUS GEOMETRIC FORMS

OVERVIEW: Individuals working in the Drafting field must work with angles and lines, solids, and geometric shapes. Geometric constructions have important uses, both in making drawings and in solving problems. The drafter must be able to use geometric constructions to make drawings properly.

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
1. Bisecting lines	1. Bisect a line, angle, and arc.	1. Attend lecture. View overhead transparencies. Complete worksheet. Read text, chapter 3.	1. Transparencies 1-7 Worksheet: "Geometric Forms" Giesecke, Basic Drafting
2. Dividing a line into parts	2. Divide a line into equal and proportional parts.	2. " "	2. " "
3. Constructing geometric forms	3. Construct a hexagon, octagon, and square, given their distances across corners and flats.	3. " "	3. " "
4. Drawing tangents	4. Draw an arc tangent to: A right angle An acute angle Two circles A circle and a straight line.	4. " "	4. " "
5. Drawing an arc through 3 points	5. Draw an arc through 3 points not in a straight line.	5. " "	5. " "
6. Irregular curves	6. Draw an ellipse using the concentric circle method and draw a cycloid.	6. " "	6. " "

Method of Assessment: Performance Test

Conditions & Limitations: As stated on exam, secure exam, no references, 1 hour

Criteria of Acceptable Performance: 85% Accuracy

GATEWAY TECHNICAL INSTITUTE

SECRETARIAL SCIENCE PROGRAM

COURSE: FILING & RECORDS MANAGEMENT 105-115

UNIT MODULE #1
USE ALPHABETIC RULES:
NAMES OF INDIVIDUALS, NAMES OF BUSINESSES, AND OTHER NAMES

Approved By

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____ /
CBE Advisor (Date)/CBE Center (Date)

_____
Administrative Curriculum (Date)
Committee

Developed by:
Peggy J. Rusk
September 29, 1978

BROAD COMPETENCY: USE ALPHABETIC RULES: NAMES OF INDIVIDUALS, NAMES OF BUSINESSES, AND OTHER NAMES.

OVERVIEW: Of all the service activities of a business, the creation and storage of business records are the greatest consumers of space, salary, and equipment. The expenditure of time, effort, and money is wasted unless records can be produced when they are required for reference; consequently, records must be arranged systematically according to some storage plan and procedure that will make it possible to find papers and other records immediately upon request.

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
1. Thirty alphabetic filing rules	1. Code, cross reference, and put in alphabetic order names of individuals, names of businesses, and other names in written exercises.	1. Attend lecture. Read text, Chapter 3. Complete study sheets.	1. Johnson/Kallaus, Records Management 2nd Ed. Study sheets #1, #2, #3
2. Card filing - names of individuals	2. File, cross reference, and retrieve 64 cards using the 10 rules for names of individuals.	2. Attend lecture. Complete lab assignment. Complete finding test.	2. Johnson/Kallaus, South-Western Records Management Laboratory Materials: Lab assignment #1 Cards 101-164 Finding test #1
3. Card filing - names of businesses	3. File, cross reference, and retrieve 64 cards using the 10 rules for names of businesses.	3. Attend lecture. Complete lab assignment. Complete finding test.	3. Lab assignment #2 Cards 201-246 Finding test #2
4. Card filing - other names	4. File, cross reference, and retrieve 64 cards using the 10 rules for other names.	4. Attend lecture. Complete lab assignment. Complete finding test.	4. Lab assignment #3 Cards 301-364 Finding test #3
5. Card filing - all 30 alphabetic filing rules	5. File, cross reference, and retrieve 64 cards using all of the 30 basic filing rules--names of individuals, names of businesses, and other names.	5. Complete lab assignment. Complete finding test.	5. Lab assignment #4 Cards 401-464 Finding test #4

METHOD OF ASSESSMENT: Lab Assignments 1-4, Finding Tests 1-4; Objective Test.

CONDITIONS/LIMITATIONS: Lab Assignments 1-4; no time limit.
Finding Tests 1-4: secure test, use cards 101-464, 15 minutes each.
Objective Test: secure test, no references, 200 questions, 50 minutes.

CRITERIA OF ACCEPTABLE PERFORMANCE:

Lab Assignments 1-4:	100 percent accuracy.
Finding Tests 1-4:	99 percent - A
	98 percent - B
	87 percent - C
Objective Test:	95 percent - A
	93 percent - B
	90 percent - C

Gateway Technical Institute

Associate Degree Nursing Program

Course: Nursing for the Future: 510-117

Broad Competency Module #1

Describe the significant contributions of individuals who have influenced the course of American nursing.

Approved By

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____
CBE Advisor (Date)/CBE Center (Date)

_____
Administrative Curriculum Committee (Date)

Developed by:
Carolyn Berna
October, 1978

Broad Competency: Describe the significant contributions of individuals who have influenced the course of American nursing.

Overview: Knowledge of individuals/groups who have made contributions to the course of nursing will aid in understanding how nursing came to be as it is today and the trends of nursing in the future. Many individuals have made major contributions to nursing practice and advances. Nursing leaders of today will be identified as to their roles and the goals of these individuals and/or groups.

Content Topics	Learning Outcome	Learning Activities	Resources
1. Early nursing influences Basic economic influences Basic social influences Basic political influences Basic religious influences Basic cultural influences	1. Describe the state of nursing during the Renaissance.	1. Attend lecture/ discussion.	1. See bibliography list of select references.
2. Contributions of Christianity to nursing	2. Identify the major contributions of Christianity to nursing.	2. Attend lecture/ discussion.	2. Same as #1
3. Military nursing orders	3. Discuss the formation and contributions of military nursing orders.	3. Attend lecture/ discussion.	3. Same as #1
4. Reformation: Basic economic influences Basic social influences Basic religious influences Basic cultural influences	4. Describe the significance of the Reformation on the development of nursing.	4. Attend lecture/ discussion.	4. Same as #1

Content Topics	Learning Outcome	Learning Activities	Resources
5. Nursing in early America: Hopitals Schools of nursing Biological developments Development of health programs	5. Summarize the status of nursing in early America.	5. Attend lecture/ discussion. View filmstrip/cassette. Complete study guide.	5. Same as #1 A-T lab, filmstrip/ cassette and study guide: "History of American Nursing"
6. Industrial Revolution: General living condition health care	6. Relate the effect of the Industrial Revolution on nursing.	6. Attend lecture/ discussion.	6. Same as #1
7. Contributions to nursing and the health fields of: Semmelweis Pasteur Lister Crede Roentgen	7. List the contributions to nursing and the health fields of early health leaders.	7. Attend lecture/ discussion.	7. Same as #1
8. Contributions to nursing of: Clara Barton Dorthea Dix Lavinia Dock Ann Goodrich Mary Mahoney Mildred Montag Florence Nightingale Mary Adelaide Nutting Linda Richards Isabel Robb Isabel Stewart Lillian Wald	8. Identify the contributions to nursing of early nursing leaders.	8. Attend lecture/ discussion. Complete research report: 2 nursing personalities, 1 page on each, using at least two sources; with footnotes.	8. Bibliography of selected references LRC card catalog Cumulative Index to Nursing & Allied Health Literature (LRC)

Content Topics	Learning Outcome	Learning Activities	Resources
9. American Nurses Association and National League for Nurses	9. Describe the development, purposes, and functions of the American Nurses Association (ANA) and the National League for Nurses (NLN).	9. Attend lecture/ discussion. Read handouts. Attend one meeting of the KDNA or RDNA. Attend at least two meetings of the KCSNA (membership encouraged).	9. Handout 1: "Functions & Purposes ANA" Handout 2: "Functions & Purposes of NLN"
10. Wisconsin Board of Nursing Wisconsin Division of Nurses State Board Examination Test pool	10. Describe the development, purposes, functions, and working relationship of the Wisconsin Board of Nursing and the Wisconsin Division of Nurses.	10. Attend lecture/ discussion. Read handout. File applications for State Boards.	10. Handout: "Chapter 441 - Wisconsin Administrative Code"
11. Identify the following: President, ANA President, WNA President, KDNA President, RDNA President, KCSNA Executive Director, NLN President, NLN Administrator, Wisconsin Board of Nursing Secretary, Wisconsin Division of Nurses Speciality Nursing Groups	11. Identify current nursing leaders on the national and local levels.	11. Attend lecture/ discussion. Read selected references.	11. Selected references: Current nursing journals (LRC) Stat (A-T Lab) NLN News (A-T Lab) Student Stat

Method of Assessment: Objective test; Research report on 2 personalities in nursing, 1 page each.

Conditions/Limitations: Objective test: 1 hour secure exam, no references; research report: as listed under Resources.

Criteria of Acceptable Performance: Objective test - minimal passing score - 78%; research report as stated under Learning Activities.

GATEWAY TECHNICAL INSTITUTE

Secretarial Science Program

Course: Typing I 106-131

Broad Competency Module No. 10

TYPE PERSONAL AND BUSINESS LETTERS USING BLOCKED LETTER STYLE, AND TYPE ENVELOPES WITH NOTATIONS.

Approved By

_____
Curriculum Committee (Date)

_____
Department Coordinator (Date)

_____ /
CBE Advisor (Date)/CBE Center (Date)

_____
Administrative Curriculum Committee (Date)

Developed by:
Carolyn Finneman
January, 1979

Typing I

BROAD COMPETENCY: Type personal and business letters using blocked letter style, and type envelopes with notations.

OVERVIEW: The ability to type personal and business letters with appropriate notations and envelopes in correct format is basic to a clerk typist or secretarial position.

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
1. Letter parts	1. Explain various parts of a letter.	1. Attend lecture. Read p. 57 of text. Complete Workguide, pp. 33-34, 36.	1. Text: Lloyd, Rowe, Winger, Typing 75, Basic Workguide: Lloyd, Rowe, Winger, Typing 75, Basic
2. State abbreviations	2. Locate and use two-letter state abbreviations.	2. Use and study information sheet.	2. Information Sheet #5, "Zip Codes"
3. Short, blocked business letter	3. Type a short, blocked business letter in proper format.	3. Type letters 1, 2, & 3, pp. 58-59.	3. Text
4. Blocked personal business letter	4. Type a personal business letter in proper format and describe how it differs from a regular business letter.	4. Type letters 5, 6, & 9, pp. 61-62. Type letters 11, 12, 13, & 2-D, pp. 64, 72, & 83.	4. Text
5. Quotation marks	5. Use and type quotation marks correctly.	5. Study marginal notes and 34-C, p. 60 of text. Complete Workguide, pp. 45-46.	5. Text Workguide

CONTENT TOPICS	LEARNING OUTCOME	LEARNING ACTIVITIES	RESOURCES
6. Correcting errors	6. Proofread, erase, and correct errors neatly.	6. Attend lecture. Neatly erase and correct all errors on production work.	6.
7. Post cards	7. Produce a mailable postal card in standard form; produce fill-in postal cards.	7. Attend lecture. Study illustrations and annotations, p. 96 of text. Type cards 1, 2, 4, & 5, pp. 95-96 of Workguide.	7. Text Workguide
8. Letter parts	8. Explain the use & correct placement of the following special letter parts: attention line, subject line, company, and signature.	8. Attend lecture. Study paragraphs 59-C and 59/60-D, p. 97 of text. Complete Workguide, pp. 83-84.	8. Text Workguide
9. Carbon copies	9. Assemble carbon pack.	9. Study illustrations of assembling carbon pack, p. 111.	9. Text
10. Envelopes	10. Type large and small envelopes with on-arrival directions and special mail service directions.	10. Attend lecture. Study illustrations and explanations of addressing envelopes, p. 99. Read information sheet.	10. Text Information Sheet #6
11. Average, blocked business letters	11. Type an average, blocked business letter with special letter parts in proper format using the appropriate number of carbons.	11. Type Letters 17, 18, 19, 21, 23, & 24 with envelopes and carbons, pp. 98-103.	11. Text

METHOD OF ASSESSMENT: Unit work; 2 Production Tests (Unit 3 and Unit 10).

CONDITIONS/LIMITATIONS: Production Tests - 45 minutes each. Unit Work: One Letter - 6 minutes; One Post Card - 5 minutes.

CRITERIA OF ACCEPTABLE PERFORMANCE: Work - mailable copy. Production Tests - mailable copy. Points as previously established on grading sheet.

Module Processing Procedure

This section of the Implementation Manual outlines the steps in processing and obtaining approval of broad competency modules. It begins with identifying responsibilities for writing modules and ends with obtaining curriculum committee and coordinator approval.

I. Procedures for Instructors

A. Write modules.

1. Meet with coordinator to determine module assignment.
2. Read appropriate sections of the Implementation Manual:
   a. "Broad Competency Module" (1978-1979)
   b. "Revised Broad Competency Module - Checklist and Samples"
   c. "Module Processing Procedure" (Revised 1980)
   d. "Format of Broad Competency Module"
3. Contact appropriate CBE Advisor for assistance.
4. After writing module, submit copy to coordinator.

B. Obtain curriculum committee and coordinator approval.

1. Upon receiving approved modules for the CBE Center, submit copies to your curriculum committee.
2. Upon receiving curriculum committee approval, request the curriculum chairperson to forward the module to the coordinator for approval.

II. Procedures for Curriculum Committees

A. Meet to review modules.

1. Instructors should notify the curriculum committee chairperson that modules are ready for curriculum committee review.
2. Curriculum committee chairperson schedules meeting to review modules.

B. Review module for content, resources, learning outcomes, assessment, etc.

1. If module is approved, the cover page is signed by the curriculum committee chairperson and forwarded to the coordinator for review.
2. If module is not approved, it is returned to the instructor along with suggestions for revisions.
3. If so desired, the curriculum committee may seek assistance in reviewing modules from the coordinator or the Administrative Curriculum Committee.

III. Procedures for Coordinators

A. Assign modules to instructors.

1. Assign to instructors the modules to be developed during the semester.
2. Record instructor name, course title and number, and module (or competency) number.
3. Send list of assignments to the CBE Advisor and CBE Center.
4. Meet with the CBE Advisor and review module development procedures.
5. Request instructors to submit modules to your office(s).
   a. Record number of modules received.
   b. Submit modules to the CBE Advisor.

B. Review modules for content.

1. Request curriculum committees meet to review CBE approved modules. Once approved by the curriculum committee, the curriculum committee chairperson should submit copies to the coordinator.
2. Review modules for content, instructional strategies, resources, etc.
   a. If module is approved, sign cover page and forward module to the CBE Center
   b. If module is not approved return it to the instructor along with suggested revisions.
3. If so desired, a coordinator may seek assistance in reviewing modules from a consultant in the appropriate subject area or from the Administrative Curriculum Committee.

IV. Procedures for the Administrative Curriculum Committee A.C.C.

A. Either a coordinator or a curriculum committee may refer modules to the A.C.C. for review.

B. Coordinators should refer modules to the A.C.C. when:

1. Broad competency for which module is written was not approved by A.C.C. following validation.
2. Additional assistance is needed in reviewing the module to ascertain its appropriateness to the District's and the instructional program's policies and objectives.

C. Curriculum Committees may refer modules to the A.C.C. when additional assistance is needed to ascertain the appropriateness of the module to the District's policies and objectives.

V. Procedures for Advisors

A. Meet with the coordinator.

1. Determine which modules the instructors plan to complete.
2. If instructors have not yet submitted module assignments, request coordinator to obtain these.
3. Check the sequence of competencies in course lists to determine if any changes are needed. Send any changes to the CBE Center.

B. Meet with instructors.

1. Inservice instructors/curriculum committees on module development.
2. Make certain that each instructor has an Implementation Manual that contains the following sections:
   a. "Broad Competency Module" (1978-1979)
   b. "Revised Broad Competency Module - Checklist and Samples"
   c. "Module Processing Procedure" (Revised 1980)
   d. "Format of Broad Competency Module"
3. Explain module due dates for the semester.
4. Explain advisor role and the availability of your assistance.

C. Review module.

1. Upon receiving modules from the coordinator, review the module for format and style requirements and attach a "Broad Competency Module Checklist"

2. When module is APPROVED:
   a. Sign and date the appropriate line on the module title page; attached "Checklist" indicating all areas of module are approved; and sent the module and checklist to the CBE Center.
   b. Notify the instructor of your action with the following memo:

      TO:_____, Instructor

      FROM:_____, CBE Advisor

      SUBJECT: Approved Modules

      DATE:

      I have reviewed and approved the modules listed below:

      Course Title & No._____

      Module(s) No._____

      Copies of the module(s) have been sent to the CBE Center for processing.

      cc: _____, Coordinator

3. When module is NOT APPROVED:

   a. Return modules that require revision to the instructor along with the checklist indicating where revisions are to be made.
   b. Notify the instructor of your action with the following memo:

      TO: _____, Instructor

      FROM: _____, CBE Advisor

      SUBJECT: Modules requiring revisions

      DATE:

      I have reviewed the enclosed module(s) listed below. These modules require revisions as indicated on the attached "Checklist". Please return the revised modules to me for approval. I will be available to answer any questions.

      Course Title & No. _____

      Module(s) _____

      cc: _____, Coordinator

VI. Procedures for the CBE Center

A. Receive approved module from the advisor.

1. Module and checklist showing advisor approval are received in the CBE Center. Modules without Advisor approval or a checklist will be returned to the Advisor.
2. The competency stated in the module is checked against the competency list on file in the CBE Center.
   a. Competency list is revised if necessary.
   b. A check and date are placed before the competency on the competency list.

B. Review module

1. Modules are reviewed to determine if format and style requirements are met.
2. When module is APPROVED:
   a. The number of modules will be recorded on the "Module Progress Chart" in the CBE Center.
   b. Module title page will be dated and stamped "Approved CBE Center"
   c. One copy will be made for the CBE Center and filed in the Course File.
   d. One copy and the original will be sent to the instructor along with the following memo:

TO: _____, Instructor

FROM: CBE Center

SUBJECT: Approved Modules

DATE:

Enclosed are modules approve by the CBE Advisor and the CBE Center:

Course Title & No. _____

Nodule No. _____

Please obtain necessary curriculum committee and coordinator approval. Your coordinator should submit the fully approved module with all necessary signatures to the CBE Center.

cc: _____, Coordinator

_____, CBE Advisor

3. When module is NOT APPROVED:

   a. The original module and the checklist from the CBE Center noting the needed revisions will be sent to the Advisor with the following memo:

      TO: _____, CBE Advisor

      FROM: CBE Center

      SUBJECT: Modules Requiring Revision

      DATE:

      Enclosed are modules that require revisions as noted on the checklist:

      Course Title & No. _____

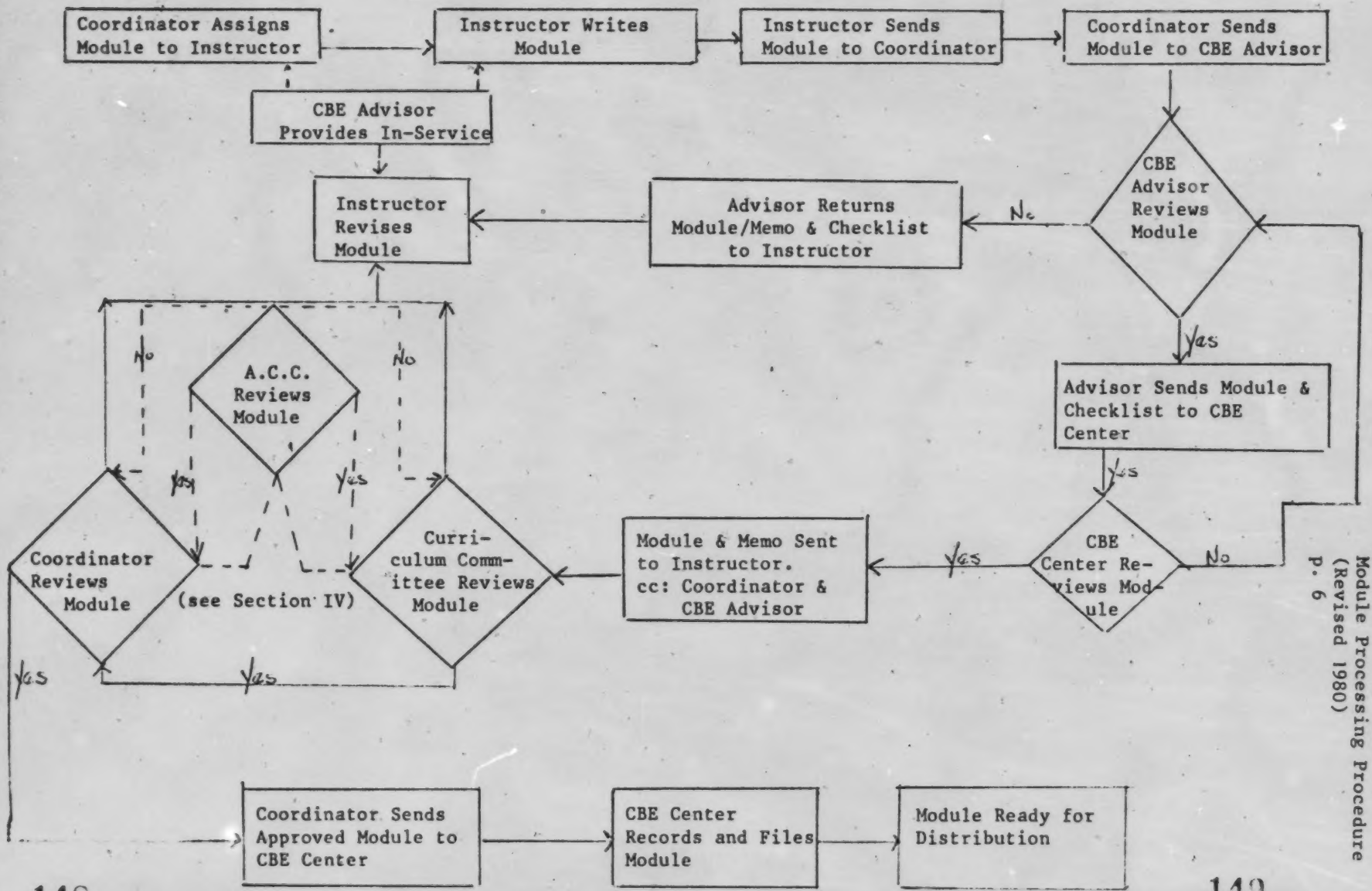
      Module No. _____

      Please return these modules to the instructor and provide assistance in making the necessary revisions. The instructor should return the copy to you. Send revised module to the CBE Center.

      cc: _____, Coordinator

   b. Copy of the memo and checklist will be filed in the CBE Center Course File.

MODULE PROCESSING AND APPROVAL PROCEDURE



Module Revision Process

I. Identify modules to be revised.

A. The need to revise a module(s) may be identified by a curriculum committee, instructor, coordinator, advisory committee or the Administration Curriculum Committee.

B. Module revisions may be required because of changes in several areas including:
1. Broad competency
2. Learning outcomes that lead to the broad competency.
3. Learning activities designed to assist students master the learning outcomes.
4. Resources used by students in the learning activities.
5. Assessment method or Criteria of acceptable performance
6. Facilities or equipment.
7. Course or program requirements.

II. Procedure for Revising Modules

A. Suggest possible revisions to the appropriate curriculum committee prior to revising module(s).
1. Curriculum committee chairperson should call a meeting to discuss revisions.
2. Proposed list of modules to be revised should be forwarded to coordinator.

B. Coordinator assigns module(s) to be revised to instructor for development (follow procedures in Implementation Manual "Module Processing Procedure Revised 1980" Section III A.

C. Instructor revises module.
1. Contact the CBE Advisor for assistance.
2. Prepare title page for revised module.
a. If entire module is revised, or parts of the body of the module, such as Overview, Learning Outcomes, Learning Activities, etc, write "Revised" before date of development in lower right corner.

Exp.

Developed by:
M. Vernezze
Revised May 24, 1981
(Date)

b. If broad competency only is revised, write (Revised) after broad competency.

Exp.

IDENTIFY COMMON MOTORCYCLE ENGINE STRUCTURES AND COMPONENTS (REVISED)

3. Revise sections of the module following format requirements specified in the Implementation Manual.
4. Submit revised modules to the curriculum committee for review (follow the procedures in Implementation Manual "Module Processing Procedure Revised 1980," Section II A.

D. Curriculum Committee reviews revised modules (follow procedures in Implementation Manual "Module Processing Procedure Revised 1980", Section II.

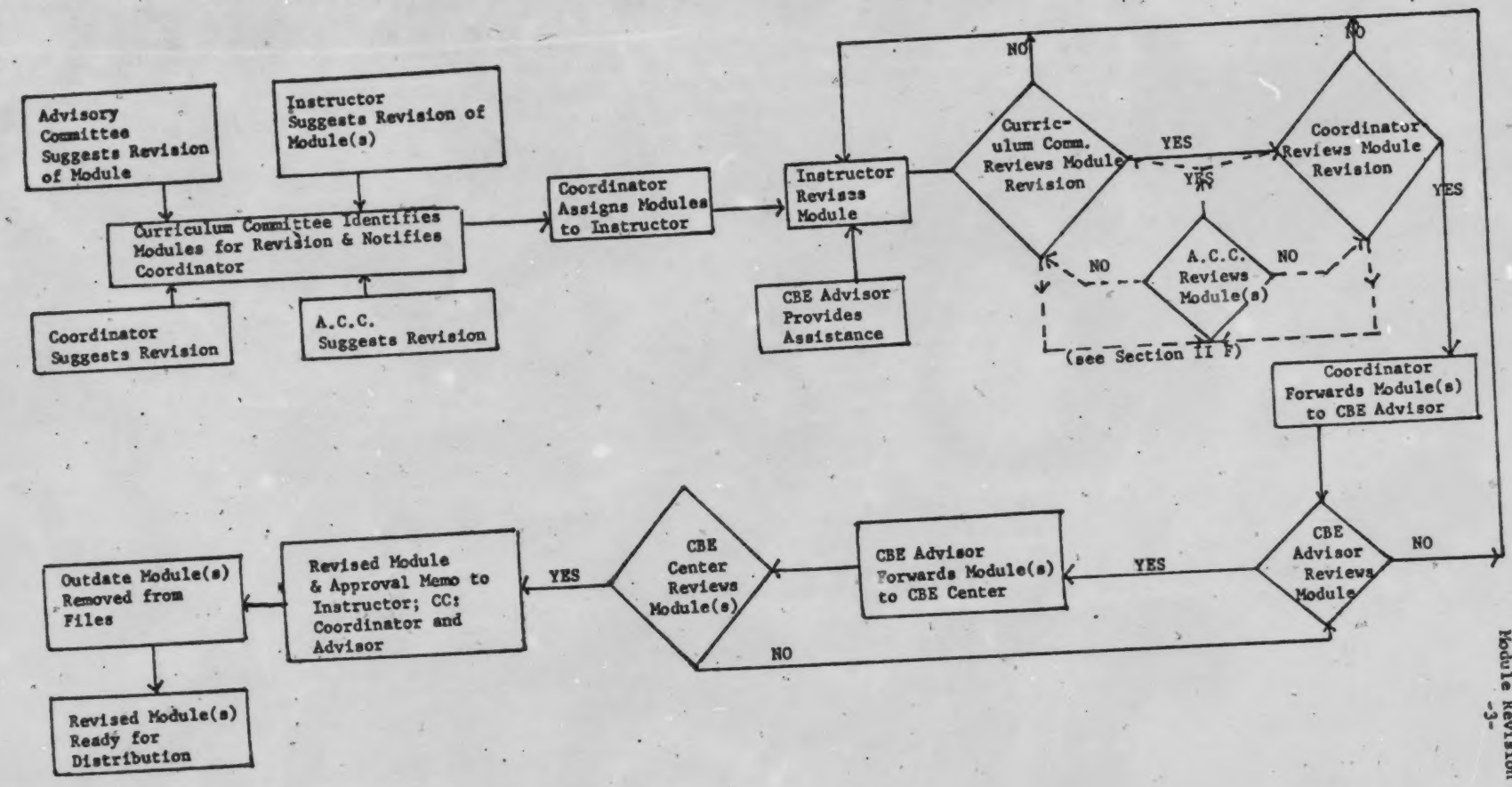
E. Coordinator reviews revised modules.
1. Review revisions.
2. Sign the title page.
3. Forwarded revised modules to CBE Advisor.

F. A.C.C. Review revised modules -Optional (follow procedure in Implementation Manual "Module Processing Procedure. Section IV."

G. CBE Advisor reviews modules (follow procedures in Implementation Manual "Module Processing Procedure Revised 1980", Section V C.

H. CBE Center reviews revised modules (follow procedure in Implementation Manual "Module Processing Procedure Revised 1980", Section VI.

MODULE REVISION PROCEDURES



SPECIFIC COMPETENCIES FOR INDIVIDUALIZED LEARNING PACKAGES

The broad competency module of instruction developed in the previous section of the Implementation Manual outlined the content, learning outcomes, learning activities, resources and methods of assessment necessary to attain the broad competency. Programs or subject areas may wish to implement a more individualized approach to competency attainment or they may wish to provide a more individualized learning package as a learning activity. In writiing individualized learning packages, it is necessary to more precisely state the specific competencies that must be attached.

This section of the Implementation Manual expands the previous section by explaining how to write specific competencies necessary for individualized learning packages. Included in this section are:

a. The parts of the specific competency.
b. The development of the parts of a specific competency.
c. Variety in formats for specific competencies.
d. Writing specific competencies in the three learning domains.

Definition and Parts of Specific Competencies

A specific competency is a precise description, in behavioral terms, of what the student will be able to do after successfully completing related learning activities. Specific competencies are derived from broad competencies and contain three distinct parts: learning outcomes, conditions/limitations, and criteria of acceptable performance.

Learning Outcome: Describes the behavior the student must exhibit; that is, the overt performance or response that is accepted as evidence that the student has mastered the specific competency. Learning outcomes identified in the broad competency unit module should be the basis for the specific competency. You may wish to refine these outcomes for individualized learning packages.

Examples of Learning Outcome on Specific Competency Statement:

Convert simple fractions to decimal equivalents by accurately solving 90% of 10 simple fractions.

Given 5 case studies, distinguish neurotic versus psychotic behaviors, based on standard definitions, with 80% accuracy.

Given two views of a line, determine by the auxillary method the line's true length accurately to the closest 1/32".

Conditions/Limitations: Describes the circumstances under which the student must demonstrate the learning outcome. Conditions or limitations may include one or more of the following:

1. Special supplies, materials, or equipment.
2. Conditions or limitations stated in prior modules, competencies, or activities.
3. Location where the competency is to be evaluated.
4. Use of references, study guides, or information sheets.
5. Any other limitations unique to assessing the competency.

If conditions/limitations for the learning outcome were not indicated in the broad competence module, they must be included in the specific competency statement for the individualized learning package.

Examples of conditions/limitations in specific competency statements:

Convert simple fractions to decimal equivalents by accurately solving 90% of 10 simple fractions.

Given 5 case studies, distinguish neurotic versus psychotic behaviors, based on standard definitions, with 80% accuracy.

Given two views of a line, determine by the auxillary view method the line's true length accurately to closest 1/32".

Criteria of Acceptable Performance: Describe standards by which acceptable student achievement of learning outcomes will be measured. Performance criteria should include one or more of the following:

1. Time limit or the rate of performance required for the competency.
2. Sources, or requirements of licensing agencies or regulatory bodies.
3. The number of presponses required.
4. The percent of total responses that should be correct.
5. The person or persons who will judge or evaluate the performance.

If criteria of acceptable performance were not specified in the broad competency module, they must be included in the specific competency statement in the individualized learning package.

Examples of performance criteria in specific competency statements:

Convert simple fractions to decimal equivalents by accurately solving 90% of 10 simple fractions.

Given 5 case studies, the students will distinguish neurotic versus psychotic behaviors, based on standard definitions, with 80% accuracy.

Given two views of a line, determine by the auxillary view method the line's true length accurately to closest 1/32".

Writing Specific Competencies.

While all specific competencies must have the three component parts, the order in which the component parts of the specific competency are written may vary. For example, specific competencies may be written with conditions/limitations stated first, followed by the learning outcome and criteria of acceptable performance. Or, the instructor may choose to state learning outcome first, followed by conditions/limitations and criteria of acceptable performance. Any of the possible arrangements of the component parts is acceptable provided the specific competency can be clearly understood by the learner.

Examples of various sequences of component parts:

Learning outcome Conditions/ limitations Criteria	Machine, heat treat, and polish a rocker for a surface gauge. You will be given the rough stock and blueprint as well as the use of the milling machine, lathe, and band saw. The completed part must be burr free and work freely in the final assembly.

Conditions/ limitations Learning outcome Criteria	Given the rough stock and blueprint as well as the use of the machine, lathe, and band saw, machine, heat treat and polish a rock for a surface gauge so that the completed part is burr free and works freely in the final assembly.

Learning outcome Criteria Conditions/ limitations	Machine, heat treat, and polish a rocker for a surface gauge so that the complete part is burr free and works freely in the final assembly. You will be given the rough stock and blueprint as well as the use of the milling machine, lathe, and band saw.

Varied Formats in Writing Specific Competences

In addition to alternating the sequence of component parts of a specific competency, you may also vary the format used to write the specific competency. A specific competency may be written as a single sentence or paragraph or specific competencies may be written with each component labeled as a separate statement. Another possible format is to present component parts in list form. Whatever format is selected, an effort should be made to state specific competencies as clearly and briefly as possible.

Examples of alternative formats - Component Parts as Single Sentence:

> Without the use of reference materials, list the approximate entry wages, general wage range, and significant fringe benefits for the appropriate occupation, consistent with available information and based upon local norms.

Component parts as Multiple Sentences or Paragraph:

> Write, edit, and deliver a 5-minute radio news program. To do this, you will be given unedited copy and an unedited tape of a news event. Within the specified time restrictions, edit and tape the program so that it is suitable for broadcast.

Component parts as Separate Statements or Partial Statements:

> A. Learning outcome: Prepare bacon, sausage, ham for breakfast serving.
>
> B. Conditions/limitations: You will be given a recipe for each of the three meats. All necessary equipment, tools, and ingredients will be available in the laboratory. No reference may be used.
>
> C. Criteria of acceptable performance: Complete each recipe in 10 minutes, follow recipe procedures, adhere to work habits, meet requirements in checklist as rated by instructor.

Component parts as lists:

> Given a blueprint of a weldment basic and the A.W.S. Welding Symbol Chart, you will correctly label on the blueprint all the following within 15 minutes:

A. Type of welds

1. fillet
2. plug
3. slot
4. arc spot
5. arc seam

B. Type of joints

1. "U" groove
2. Double "U" groove
3. "J" groove
4. Double "J" groove
5. Square groove
6. "V" groove
7. Double "V" groove
8. Bevel groove
9. Double bevel

C. Location of welds

1. Near side (arrow side)
2. Far side (other side)

Specific Competencies and the three Learning Domains

Since broad competencies identify knowledges, attitudes, and skills required for successful completion of a program, specific competencies should be written so these three types of behaviors are identified. Therefore, in developing specific competencies, attempts should be made to specify some learning outcomes in each of the three learning domains--psychomotor, cognitive, and affective.

Examples of specific competencies with learning outcomes from each of the three domains are shown below

The cognitive domain of learning includes the development of knowledge through the acquisition and use of concepts, facts, and generalizations in various thought processes.

> Given five pictures of different window treatments, evaluate in writing how each of the treatments does or does not meet the criteria for selecting drapery treatments. The evaluation must include all of the eight criteria given in the textbook.

The affective domain of learning includes the development and application of attitudes in making choices and value judgments.

Given five pictures of differencly decorated rooms, explain in writing whether or not the window treatments in these rooms are aesthetically pleasing. Criteria of drapery selection and aesthetics as outlines by the instructor will be used to evaluate your decisions.

The psychomotor domain of learning includes the development of skills and manipulative abilities.

On a double-hung standard sized window, install traverse rods and drapes so that the appearance and operation of the drapes is in accordance with installation standards. All appropriate tools and equipment will be provided.

INDIVIDUALIZED LEARNING PACKAGE

This section of the Implementation Manual provides instructions for developing an individualized learning package. An individualized learning package is a self-contained unit of instruction which contains the directions for the achievement of one or more specific competencies with a minimal amount of instructor support. Individualized learning packages contain learning activities, resources, and assessment items. They can be used to implement an individualized competency based course or program or to provide alternative learning activities in a traditional instructional program. The parts of the individualized learning package are:

Orientation

- Title Page
- Broad Competency
- Overview
- Specific Competency
- Pre-assessment

Learning Activities

- Learning Resources
- Learning Activities
- Alternate Learning Activities (optional)
- Enrichment Activities (optional)

Evaluation

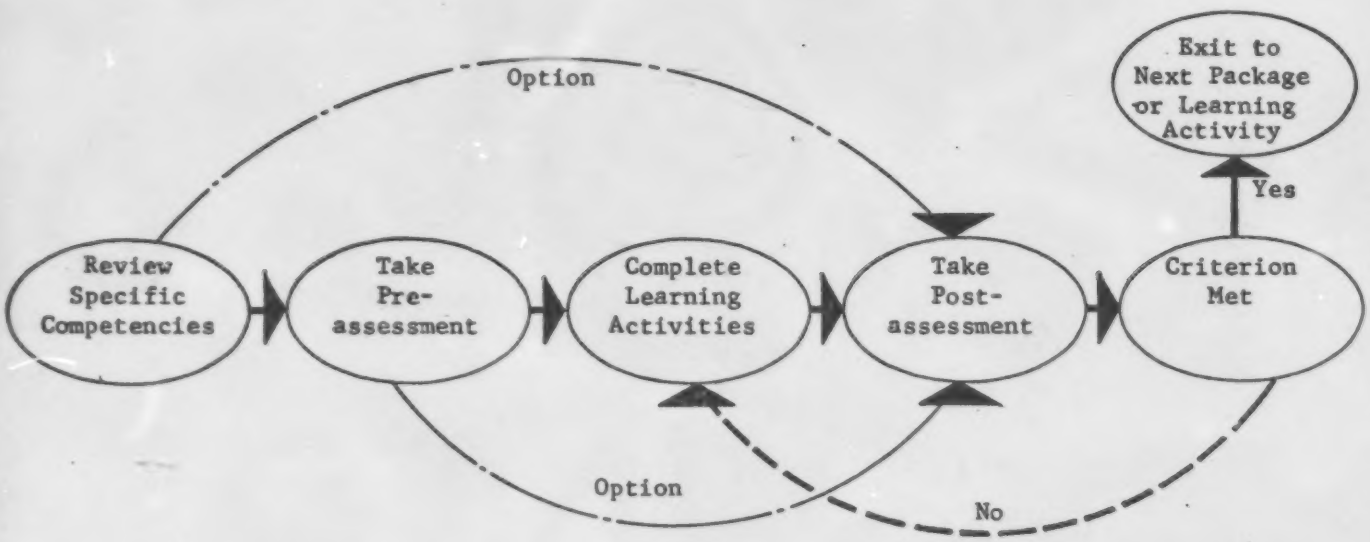
- Post Assessment
- Instructions following Post-assessment
- Evaluation by the Student (optional)

STUDENT PROGRESSION THROUGH INDIVIDUALIZED PACKAGE

The following is a flow chart which illustrates the typical path, plus two optional paths, that a student may follow when working through a package:

Typical Path _____

Options _ _ _ _



The typical path is represented by the solid line running through the center of the chart. Students selecting this path would review the specific competency(ies), take the pre-assessment, then proceed to the learning activities. After successfully completing the learning activities, they would take the post-assessment; if they meet the level of competency stated in the criterion of acceptable performance, they would exit to the next individualized package or learning activity. Students who do not meet the criterion would return to the learning activities and then to the post-assessment.

The two optional paths are represented by dotted lines running along the top and bottom of the flow chart. These options are provided to allow students to test out of the specific competencies.

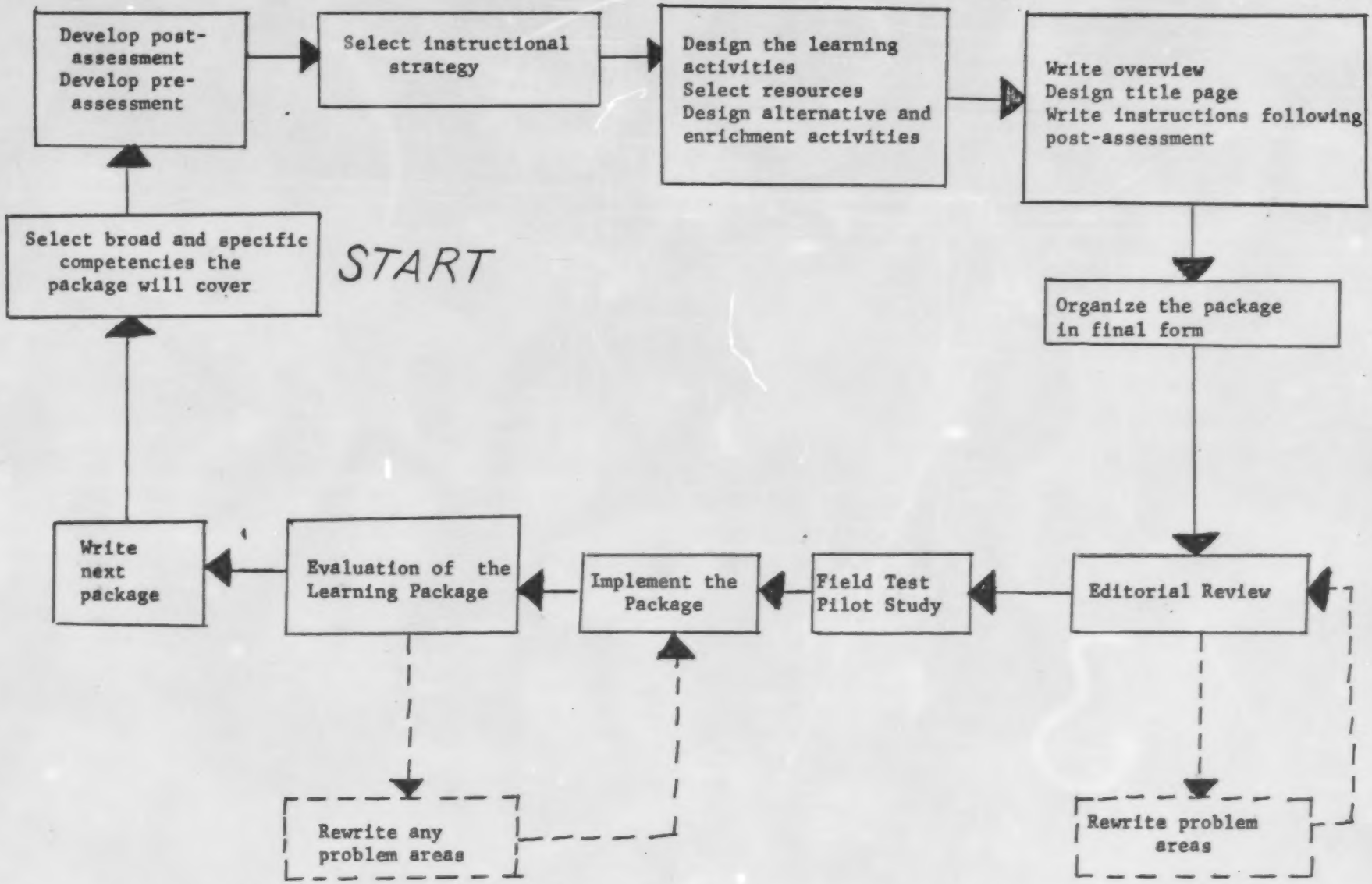
GUIDELINES FOR WRITING LEARNING PACKAGES

The learning package is written in a different sequence than is used by the student. This is to insure that a valid relationship will exist between the competency, pre- and post-assessments, and learning activities. When writing a learning package, this sequence would be followed:

Select broad and specific competencies.
Develop post-assessment.
Develop pre-assessment.
Select instructional strategies.
Design the learning activities.
Select resources.
Design alternative and enrichment activities (optional).
Write overview.
Design title page.
Write instruction following post-assessment.
Organize package in final form.
Field test.
Editorial review.

On the following page is a flow chart indicating the recommended sequence for the development of a learning package.

SEQUENCE FOR DEVELOPING INDIVIDUALIZED LEARNING PACKAGES



Following are some general guidelines which may be helpful in developing your learning package:

--Learning packages are intended to be read and used by students. Write to the student and for the student. Say it simply.
--Use the personal term "you", not "one".
--Follow the Gateway affirmative action guidelines.
--Avoid educational jargon. Define technical terms when they are introduced.
--Edit your own work before you submit it for typing.
--Use the term "student" for the learner of whatever age group. Do not use "pupil" or "trainee".
--Use the term "instructor" rather than "teacher".
--Consider the length of the package. Shorter packages are more motivating for the student who is inexperienced in using packages.
--Consider referring to the metric system where applicable.
--Refer the student to another package in the program by citing package number and the title.

SELECT BROAD AND SPECIFIC COMPETENCIES THE INDIVIDUALIZED LEARNING PACKAGE WILL COVER

Learning packages are written for one or more related specific competencies, typically grouped, and learning to a broad competency.

From the sequenced list of broad and specific competencies developed in your area, select the broad competency for which you are writing a learning package or learning packages. Then select the specific competency or competencies to be included in the package.

DEVELOP POST-ASSESSMENT - (assessment items may be separate from module package)

The post-assessment should be written immediately following the selection of the specific competencies. The assessment items must be criterion-referenced to reflect the performance required, conditions and limitations, and criteria of acceptable performance as stated in the specific competency. In designing your post-assessment, the following must be kept in mind:

1. Assessment must be directly related to the performance stated in the competency. The assessment items must have a valid relationship to the competencies. They are valid when they are composed of items that bring out the desired behavior as stated in the specific competency.

2. Assessment situations must reflect the conditions and limitations stated in the competency. The more realistic the assessment situation, the easier it is to transfer competencies from the educational climate to the world of work.

3. The assessment item must be directly related to the criteria of acceptable performance stated in the competency. A specific competency whose criteria of acceptable performance states 90% accuracy must have an assessment item which tests 90% accuracy. The criteria of acceptable performance will be affected by the length of time taken to complete the assessment item; the number of demonstrations the student must perform successfully to be considered competent; and external factors such as business and social criteria.

The post-assessment item must determine the student's achievement in terms of knowledge, skill, and/or attitude. These are the cognitive, psychomotor, and affective learning domains, as explained below.

Knowledge: evaluation of the ability to use facts, concepts, and generalizations that are acquired through learning experiences. Knowledge may be evaluated by verbal or written responses to assessment items.

Skill: evaluation of the development of manipulative abilities to attain a competency. Skill should be evaluated by observation of the student's performance of a process, or by evaluating a final product. It is necessary to determine if the competency is product or process in order to write a post-assessment that is related to the competency.

Product is the item or items produced as a result of student activity.

Process is the observable sequenced behavior exhibited by a student while performing a competency.

Product Examples	Process Examples
A resume	Lighting a welding torch
A floor plan	Preparing a baking recipe
An interior design room model	Working with customers
A hair style	Landing an airplane
	Starting an I.V.

Attitude: evaluation of interests, feeling and value judgment. Attitudes are the most difficult types of competencies to evaluate because they can only be indirectly assessed through overt behavior described in the competency.

The following are suggestions for writing attitude evaluation items:

1. Identify the specific observable behavior upon which the evaluation is based.

2. Select one or both of the following techniques to evaluate attitudes based on the specific performance criteria previously identified.

   Observation - through observation of overt behavior you can determine attitude.

   Questioning - through asking questions (verbal or written) you obtain information pertaining to student's interests, feeling and values.

DEVELOP PRE-ASSESSMENT

Pre-assessment is used as a self-evaluation for the student and as an aid to the instructor in determining the needs of the student. The student has the option of taking or not taking the pre-assessment. The pre-assessment is included in the learning package for three reasons:

1. To determine the student's readiness to begin the learning package.

2. To determine if the student is able to proceed to the post-assessment without going through the learning activities.

3. To draw the student's attention to the contents of the learning package that are appropriate to their learning needs.

In writing your pre-assessment, parts or all of the post-assessment may be used. If the pre-assessment and the post-assessment are the same, then the student can test out of the module package in the pre-assessment. The pre-assessment should be directly related to the competency or competencies of the package; it should be brief, and easy to score and/or evaluate. For direction in writing the pre-assessment, see the previous section on post-assessment. If a package is a pre-requisite for another package, the post-assessment of the pre-requisite module package may be used as the pre-assessment for the following module package.

SELECT THE INSTRUCTIONAL STRATEGY

The instructional strategy, sometimes referred to as mode or methodology, is the comprehensive plan of instruction which the instructor feels will best allow the students to achieve the competency. Normally one or more instructional techniques are incorporated into a comprehensive instructional strategy. Instructional techniques (demonstration, lecture, etc.) differ from the overall strategy in that they are unique means used by the instructor to achieve the desired learning objective. Both instructional strategy and instructional technique differ from learning activities in that learning activities are performances undertaken by the student. The planning and presentation of a demonstration is an instructional technique while the student attending and observing the demonstration is a learning activity. Both of these are a part of the overall instructional strategy.

As instructional strategies are developed, you should consider such factors as: the appropriateness to the competency, student characteristics, student learning styles, and cost factors. It may be helpful to make a written plan of your learning strategy to be used; however, this is not included in the module package. Appendix I gives some learning activities which may be incorporated into your instructional strategy.

DESIGN THE LEARNING ACTIVITIES

Learning activities are the most critical part of a learning package; they are the vehicle through which all learning is achieved. Learning activities may be self-paced or large group experiences. Fardig [1] writes:

"In many ways the Learning Activities section is the core of an instructional module. It translates the expected goals of the written objective into learning that results in real behavior change on the part of the student. The Learning Activities section tells the student just what he will need to do to achieve the objectives and master the necessary skills. It presents activities in a very concise manner, and in an ordered sequence, directing the student to various specific resources, or asking him to engage in certain laboratory experiences...if the activities are carefully selected, the student will learn and will be able to perform the competencies involved in the module.

"It is essential that the selected activities be designed to lead directly to the specified competencies of the module. They should include everything a student needs to know or be able to do to reach the objective. It will not be assumed that the student will somehow fill in the gaps by asking around, watching somebody else, or making some good guesses. If he needs certain information, he will be told how to get it. If he needs to develop a physical skill, he will be shown the skill and be given the opportunity to practive until he has perfected his performance. If he is to produce something, he will be told what he is to produce and how to go about it.

"At the same time the learning activities must not include extraneous matter and must not give students an assignment with the vague idea that somehow it will do them good. The readings should be directly to the point, the laboratory assignments carefully limited to what the students must be able to do, and the practice exercises should concentrate on the requisite skills."

1. Fardig, Glen E. Handbook for the Development of Vocational Education Modules. Lexington, KY: University of Kentucky, April 1975.

The following are some general guidelines for writing learning activities. See Appendix I for a list of suggested learning activities.

--After learning activities are chosen, guide sheets should be included in the module package which more specifically guide the student through the learning activity. These may include study questions, check off sheets, or self-evaluation tools.

--Activities should be sequenced so the skill, knowledge, or attitude may be used as soon as possible.

--Sequence learning activities from simple to complex.

--Select the best learning activity available to achieve the competency.

--Vary the activities for learning within the learning packages and between learning packages.

--Instructional materials can be purchased or developed.

--Select learning activities designed to support the competency, rather than the competency supporting the learning activity.

--Use only those activities essential to attainment of the competency.

--Design learning activities so that the student can learn the material in a reasonable amount of time.

--Give specific directions in the learning activities to the student on what is expected and where supplies can be obtained, so that valuable student and instructor time is not wasted.

SELECT LEARNING RESOURCES

The learning resources relate directly to successful performance of the learning activity. Learning resources are any persons or things that a student uses to acquire knowledge, skills, or attitudes. Learning resources may include text-books, materials, equipment, tools, resource people, self-evaluation or inventory sheets, field trips, and computer assisted instruction programs. When citing materials be specific. For books, state author, title,editor, chapter and page. For magazine articles, state author of article, title of article, title of magazine, date of issue, and pages. For audiovisual materials, state format, title, producer.

The location of the resource should be given. If locating the resources by the individual student is a learning activity, this should be specified in the module package. Learning resources should relate to the competency, be economically realistic, include a variety of resources, and relate to students' learning abilities.

Adhere to Gateway's copyright guidelines when using copyrighted material.

ALTERNATIVE AND ENRICHMENT ACTIVITIES. (Optional)

Alternative learning activities are optional learning experiences which may be designed by the instructor for those students with learning styles that are not compatible with learning activities presented in the module package and for those who have failed to achieve the competencies of the module package. These are learning activities written for students with various learning levels; eg. reading levels, writing levels, comprehension levels, psychomotor levels. The Student Developmental Center may be used as a referral center by the instructor in diagnosing student learning levels; the campus based Guided Studies Center may be used as a resource for alternative activities.

Enrichment activities are optional learning experiences that may be added to the learning packages. These allow the student to more thoroughly explore subject matter related to, but beyond the scope of, the learning package.

For selection of alternative and enrichment activities refer to Appendix I.

WRITE OVERVIEW

The overview should include motivational statements to the student and an orientation to the learning package. It should explain the relationship between this learning package and other packages in the program or subject area. It can explain the value of the learning package and provide a synopsis of activities and desired outcomes.

The overview is usually in one paragraph and follows the broad competency statement. Examples include:

1. Subject area: Social Science

   For the student in psychology, a foundation in growth and development is vital. Knowledge of the principles of growth and development is essential to understanding life processes of individuals from birth to death. The following module package describes the principles of growth and development.

2. Occupational program: Food Service

   Eggs are a very important and costly ingredient of bakery products, especially of cakes and rich, sweet doughs. In fact, they represent 30-50% or more of the cost of the ingredients used in cake production. This is one of eight learning packages on the basic ingredients in baking. It discusses the purchase, storage, handling, and proper use of eggs. These factors must be thoroughly understood if bakery products of high quality are to be produced at a pre-established cost.

TITLE PAGE

The first page of the learning package is a title page. The title page should be attractive to the student and reflect the uniqueness of the content and

individuality of the developer. See examples of title pages in Appendix II.

Standard items appearing across the bottom of the title page should include:

Course name and number.

Competency number - a numbering system will be developed by the District to identify competencies.

Individualized learning package number - Each learning package in a program should have a unique number. This number should stand out at the bottom of the page. (A District-wide numbering system will be developed in the future).

Date of learning package development and/or revision.

Additional standard items are to appear on the title page. Placement of these items is at the discretion of the writer.

Learning package title - This is usually a description of the broad or specific competency to which the learning package relates. Each learning package should have a unique title. In the event of similar titles, sequential numbering may be used, such as Food Preparation, Vegatables I; Food Preparation, Vegetables II.

Name of developer.

School name.

Approval by appropriate curriculum committee.

STUDENT EVALUATION OF THE LEARNING PACKAGE

Student evaluation provides feedback to the instructor on the effectiveness of the package. The instructor should provide students with an opportunity to evaluate the learning package. including the competency, the learning activities, the learning resources and the assessment tool.

Appendix III gives the standard form which will be used for students to evaluate the module package. The first time the module package is used, these forms will be attached to it, and thereafter should be made optional to students for evaluation of the learning package.

WRITE INSTRUCTIONS FOLLOWING POST-ASSESSMENT

After the student has completed the post-assessment, instructions must be given to direct the student. If the student achieves the competency, directions should be given to go on to the next learning package. If the competency is not achieved, directions should be given to repeat the package, or to complete alternative learning activities necessary to achieve the competency.

ORGANIZE THE INDIVIDUALIZED LEARNING PACKAGE IN FINAL FORM

All of the preceding guidelines and directions have been given in the sequence that an instructor would write the sections of a learning package. The organization of the sections of an individualized learning package for student use are different from the sequence in which they were written by the instructor. The following is the required sequencing for student use:

ORIENTATION

Title Page
Broad Competency
Overview
Specific Competency
Pre-assessment

LEARNING ACTIVITIES

Learning Resources
Learning Activities
Alternative Learning Activities (optional)
Enrichment Activities (optional)

EVALUATION

Post-assessment
Instructions Following Post-assessment

EDITORIAL REVIEW

To achieve and maintain the development of effective packages, a process of continual evaluation is necessary. Instructors will review their learning packages and evaluate them using objective criteria. A module package assessment checklist has been developed to assist in this process. Refer to Appendix III for this checklist. While each of the elements can be given a yes or no response, it is the reasoning behind each response that is most important.

It is desirable that learning packages be reviewed by instructors within your subject area and by instructors in other subject areas to identify errors or omissions and to suggest possible changes to improve the module packages.

In addition to the above, there will be a three stage final approval of the module package.

FIELD TEST

To insure readibility and clarity the learning package should be field tested. This may be done by having three or four students in a subject area or program work through the package before it is handed in for final printing. Field testing may identify problem areas that may require rewriting. If no problem areas are identified, the learning package may be implemented. After implementation, continuous evaluation of the package by students, instructors, and advisory committee members may identify problem areas and updating needed to keep the learning package current.

APPENDIX I

SUGGESTIONS FOR LEARNING ACTIVITIES

These suggestions are not meant to be all-inclusive, but are presented to stimulate instructors' own creative thinking. (Adapted from Fardig).[1]

1. Readings from textbooks of short, relevant sections dealing specifically with the knowledge required to reach the competency. This may be a single reference or may be given as alternative references from different books.

2. Examinations or data-gathering from standard reference books of the vocational field.

3. Completion of a section of a programmed text or other programmed material.

4. Reading of special materials available in the school library.

5. Solving of practice problems.

6. Viewing or listening to individualized audio or audiovisual materials.

7. Observing or operating models such as mock-ups or dummy set-ups to gain understanding of mechanisms or operating controls.

8. Role-playing in a simulated situation.

9. Real-life performances where the students function for short periods of time under controlled conditions in an actual work situation, or a situation very close to real.

10. Observing the skilled vocational worker in real work situations. This should be done with specific goals in mind, usually with some form of guide, observation instrument, or report form to give structure and point to the observation period.

11. Videotaping student performance, to be viewed and used by the student to evaluate and improve performance.

12. Simulation experience where a student goes through a 'dry run' of the performance with the conditions controlled and consequences minimized. "Case Studies" in which students write their own reactions and responses to the given situation are also considered simulation experiences.

13. Small-group experiences where students at closely related points of achievement can meet to discuss, plan, or evaluate their work.

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1. Fardig, Glen E., Handbook for the Development of Vocational Education Modules. Lexington, KY: University of Kentucky, April 1975

14. Instructor demonstration of an operation. There may be instructional situations in which the only solution is for the instructor to personally perform the operation and describe it as students observe.

15. Guest speakers or outside experts.

16. Production or construction of projects or services. These must directly contribute to the objective and therefore must be carefully designed.

17. Problem-solving activities. Some objectives may require solving the problem involved in given situations. These may be relatively short experiences or quite long-term jobs. It is very important in problem-solving activities that the students are known to possess the requisite skills, that they have access to the information necessary to solve the problem, and that the problem not go beyond the performance objective.

18. Skills practice. Some skilled operations may require that the student not only be able to perform them correctly once, but require that the student be able to do them smoothly and flawlessly every time.

19. Memorization. The performance objective may require or suggest that the student can best function if he has committed some information to memory.

20. Collecting activities. Some performance objectives may be reached by asking students to gather and collect real objects so as to become familiar with their characteristics, the variety available, the settings in which they may be found.

21. Scaled-down performance. If the real performance is large in physical size, complex because of the number of participants, or consumes a quantity of expensive materials, a limited performance or scaled-down situation may give the student a better chance of gaining confidence or success, and may be more instructionally efficient and practical.

22. Reading information sheets specifically prepared for the module.

23. Performing experiments in the laboratory.

24. Writing of technical reports, and writing reactions to case studies reports.

25. Preparing visual materials. Gather information and produce diagrams, schematic drawings, charts, graphs, etc. Activities of this type are usually interesting to students, add variety to the learning experience, and tend to reinforce learning.

26. Planning experiences. Performance objectives may require that the student learn how to plan the job or operation.

27. Critique or evaluation experiences. The student is asked to rate or evaluate an example of a finished product or service, or make a critical analysis of a performance of a specified skill.

28. Team student experiences. Situations when two or more students may work together in a learning experience. Many occupational tasks involve teamwork, and it is proper for the learning activities to incorporate this.

29. Large group lecture discussion. Verbal presentations by the instructor to present facts, principles and/or generalizations.

30. Field trips. Trips to business and industry relating to the competency.

Title Page Example #1

Gateway

DATA PROCESSING

Computer Concepts: Numbering Systems

BASE 2

Developed by
Ken Duller

Approved by
Data Processing
Curriculum Committee

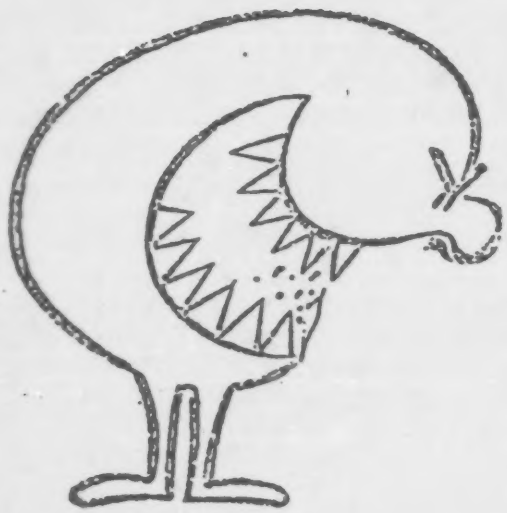
Computer Concepts I Course # 107-113	Competency #2.000	November 1, 1976

INDIVIDUALIZED LEARNING PACKAGE
#2.010

Title Page Example #2

Gateway

Defense Mechanisms



Developed by
Doug Wagner

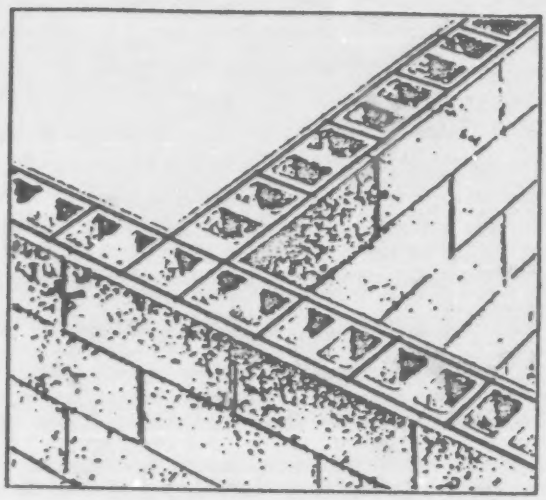
Approved by
Social Science Curriculum Committee

Psychology of Human Relations Course # 809-151	Competency #5.000	December 1, 1976

INDIVIDUALIZED LEARNING PACKAGE
#5.010

Title Page Example #3

Use of Concrete Masonry Units



by Tom Jordan

Approved by
Civil Technology
Curriculum Committee

Building Construction I Course # 614-121	Competency #4.000	December 1, 1976

INDIVIDUALIZED LEARNING PACKAGE
#4.010

APPENDIX III

Student Evaluation of Individualized Learning Package:

Directions: Now that you have completed this learning package, your comments and suggestions would be appreciated. Please complete the following and return it to your instructor.

Individualized Learning Package Title_____

Individualized Learning Package Number_____

Instructor_____

1. Was the package too long?_____, too short?_____
2. Were instructions clear and easy to follow?_____
3. Do you feel the learning activities enabled you to achieve the competency?

   _____
4. Did the post-assessment test the competency?_____
5. Did you like the way the learning package was presented?_____
   If not, how would you present it?_____

   _____
6. How many hours did it take you to do this learning package?_____
7. Did you achieve the competency on the first try?_____ If not, how many tries were needed?_____
8. Comments:_____
   _____
   _____

APPENDIX IV

INSTRUCTOR
INDIVIDUALIZED LEARNING PACKAGE ASSESSMENT
CHECKLIST

INDIVIDUALIZED LEARNING PACKAGE NO._____ INDIVIDUALIZED LEARNING PACKAGE TITLE_____

ELEMENTS	YES	NO	NA	COMMENTS
1. Orientation:				1.
a. Title page contains required data				a.
b. overview describes what the student will learn				b.
c. overview tells the student why the competency is needed				c.
d. competencies are correctly stated				d.
2. Learning Activities:				2.
a. are consistent with the competency				a.
b. provide sufficient opportunity for the student to learn				b.
c. are feasible				c.
d. are clearly and succinctly stated				d.

ELEMENTS	YES	NO	NA	COMMENTS
2. e. provide practice of skill in controlled settings.				e.
f. provide simulated or real-world tryout of competency.				f.
3. The Pre- and Post-Assessment:				3.
a. measure student achievement of the learning package competencies				a.
b. are limited to the competencies stated in the package				b.
c. state the desired performance in unambiguous terms				c.
d. are based on observable student performance				d.
4. Miscellaneous:				4.
a. does the learning package contain student instructions following the post-assessment?				a.
b. is the learning package in correct format?				b.

COMPETENCY CERTIFICATE

This final section of the Implementation Manual describes Gateway's Competency Certificate which is prepared for each Gateway program. The certificate is NOT designed to be used as a transcript, nor as a record of student progress. Its purpose is to serve as a list of competencies available to students enrolled in a Gateway program.

Purposes of the Competency Certificate

The Competency Certificate will provide a:

1. Record of the competencies that comprise courses in a given program.

2. Counseling tool to inform counselors and students of program requirements.

3. Informational document to distribute to potential employers to advise them of the educational experiences offered by Gateway.

4. Recruitment materials for distribution to schools, agencies and prospective students to acquaint them with career opportunities available at Gateway.

Format for Competency Certificate

The format for the Competency Certificate will be the same for all Gateway programs. Only the courses and competency statements will vary. The final list of validated broad competencies as approved by the program curriculum committee and the Administrative Curriculum Committee will be the competencies stated in the Certificate. The CBE Center, having the most up-to-date record of course competencies, will produce the certificate, with input and approval of the program curriculum committee.

Each certificate will contain the following:

1. Heading

   a. Gateway Technical Institute and Logo, with three campus addresses

   b. Title: Program Competencies followed by program name.

2. A Notice: THIS IS NOT A TRANSCRIPT. "The following competencies reflect the subject material taught in the identified program. This listing does not imply that all students have completed the total program, and employers are cautioned to compare the student's transcript with the competency list. To have meaning, the course must appear on the transcript.

3. Broad competency statements for all required courses, including General Education courses. In addition, the following course information will be included:

   a. Course number

   b. Number of course credits.

4. Broad competency statements for Elective courses, only if requested by the program curriculum committee because a majority of students enrolled in that program select that course.

5. The date the certificate is compiled by the CBE Center.

Printing and Distribution

A program curriculum committee may request that a certificate be prepared when the Administrative Curriculum Committee has approved the competencies for all courses in that program. The certificates will be prepared in the CBE Center and printed by Instructional Resources Duplicating Service.

The Competency Certificate will be distributed by Student Services on each Gateway campus to:

Employers when requesting a transcript

Students when requesting a transcript

Gateway staff and administration upon request

Any other internal or external request

THIS IS NOT A TRANSCRIPT

Gateway Technical Institute

District Office
Kenosha Campus
3520 30th Avenue
Kenosha, WI 53141

Racine Campus
1001 South Main Street
Racine, WI 53403

Elkhorn Campus
E. Centralia St. & Hwy. H
Elkhorn, WI 53121

PROGRAM COMPETENCIES

Mechanical Design

NOTE: The following competencies reflect the subject material taught in the identified program. This listing does not imply that all students have completed the total program, and employers are cautioned to compare the student's transcript with the competency list. To have meaning, the course must appear on the transcript.

INTRODUCTION TO ELECTRICITY 605-104 3 Credits

.Explain principles involved with electric circuits and power.
.Apply concepts of voltage, current and resistance as they apply to series circuits.
.Apply concepts of voltage, current and resistance as they apply to parallel circuits.
.Apply knowledge of inductors, capacitors and transformers to electric circuits.
.Describe the relationship of A.C. and D.C. current to electric circuits.
.Apply the knowledge of electricity to electric motors and motor controls.
.Apply a knowledge of basic electronics to solid state devices.
.Define and describe the basic functions of an electronic control panel with switches, relay, etc.

TECHNICAL DRAFTING I 606-101 5 Credits

.Use drafting and reproduction equipment.
.Draw freehand, vertical and inclined letters.
.Draw various geometric forms and a single view object.
.Draw orthographic and pictorial sketches.
.Visualize and draw missing view problems.
.Draw basic three view drawings.
.Make isometric and pictorial drawings.
.Draw full, half and broken out sections.
.Draw offset, revolves, removed, enlarged and assembly sections.
.Draw primary auxiliary views.
.Draw secondary auxiliary views.
.Draw and specify threaded fasteners.
.Apply basic principles of dimensioning.
.Apply basic concepts of true position.

TECHNICAL DRAFTING II 606-104 3 Credits

Select from catalogs and draw belt drive components.
Select from catalogs and draw chain drive components.
Select from catalogs and draw gears.
Draw basic motion and power transmission devices such as linkages.
Determine availability of basic standard hardware components and select from vendor catalogs and depict on drawings.
Depict special fastening techniques such as clips, snap rings, welding, staking and peening.
Make a layout drawing of a small assembly of approximately 12 parts or less.
Make detail drawings from a small assembly layout.
Make finished assembly drawing of layout and detail drawings with a bill of materials.
Prove assembly by means of a tolerance stackup analysis.
Use geometric dimensioning.
Make a layout of a design project.
Make details of design project layout.
Make assembly of design project details.

DESCRIPTIVE GEOMETRY 606-110 2 Credits

Draw objects using successive auxiliary views.
Determine true lengths of lines and true sizes of planes.
Utilize concepts of revolution.
Solve for piercing points and determine the intersection of planes.
Determine the angle between a line and a plane and the angle between 2 planes. (Dihedral angle)
Utilize concepts of parallelism and perpendicularity to solve graphic problems.
Solve for the intersection of surfaces.
Prepare developments of plane and single curved surfaces.
Determine the angle between a line and an oblique plane.
Solve for the intersections of planes and solids.

MANUFACTURING MATERIALS 606-157 2 Credits

.Define and describe basic physical properties of materials.
.Describe the general physical properties and applications of ferrous metals.
.Describe the general physical properties and applications of non-ferrous metals.
.Describe the general properties and applications of plastics.
.Describe the general physical properties and applications of elastomers.
.Describe the general physical properties and application of concrete, brick, stone and glass.
.Compare and assess engineering materials.

MANUFACTURING PROCESSES 606-159 2 Credits

.Assess the advantages of various casting and forging processes.
.Assess advantages of various heat treating processes.
.Assess advantages of common machine tool operations.
.Assess advantages of various plastic molding processes.
.Assess advantages of various welding and joining processes.
.Assess inspection and quality control methods.

WRITTEN COMMUNICATIONS 801-101 3 Credits

Review and write sentences that meet generally accepted standards of sentence structure, grammar, usage and punctuation.
Write varied and interesting sentences that show a coherent sequence of thought.
Develop vocabulary appropriate and consistent with the various levels of English usage.
Use transitional elements to link and relate ideas logically in sentences and paragraphs.
Write an effective letter of application and resume.
Locate, gather and organize relevant up-to-date information for use in assigned written articles.
Summarize or paraphrase selected reading materials.
Use appropriate documentation in reports and research papers.

ELEMENTS OF MACHINE DESIGN 606-116 3 Credits

.Define and describe the basic characteristics of engineering design.
.Define and describe the basic characteristics of castings, forgings, and weldments.
.Define and describe the basic characteristics of strengthening components such as changing geometry, heat treatment, cold working, hot working, etc.
.Identify basic machine elements such as fasteners, couplings, clutches, bearings, gear brakes, belts, chains, etc.
.Select, apply and design basic machine elements.
.Redesign and improve existing machine elements.
.Apply the design knowledge of basic machine elements to special non-standard, more advanced machine elements.
.Identify and use gear nomenclature and calculations.

MECHANISMS 606-118 3 Credits

.Apply principles of linear and angular motion graphically and analytically to solve mechanism problems.
.Identify basic common mechanisms.
.Determine velocity and acceleration of common linkages graphically.
.Use principles of instant centers.
.Determine velocity and acceleration of cam mechanisms.
.Identify basic cam mechanisms and follower movements.
.Draw basic motion and power transmission devices such as linkages.
.Apply basic laws of gearing.
.Identify basic types of gearing.
.Apply graphical differentiation and integration to mechanism problems.
.Develop cam displacement diagrams and profiles.
.Draw cams using various cam motions.

TECHNICAL REPORT WRITING 801-105 3 Credits

Review and apply basic styles of technical writing.
Recognize and write good letters and memoranda.
Define a mechanism and describe the physical features of a mechanism.
Apply the fundamentals of logic to technical report writing.
Describe the operational sequence of a mechanism.
Research and gather data for a technical project.
Present and interpret statistical data and visuals in a written report.
Write the different types of reports found in business and industry.
Present orally a technical report.

MATH 151 804-151 2 Credits

Write and simplify algebraic expressions and solve related applied problems.
Add, subtract, multiply and divide algebraic expressions and solve applied problems.
Factor algebraic expressions and add, subtract, mulitply and divide algebraic fractions to simplify an expression.
Solve linear equations, formulas and applied problems resulting in pairs of linear equations.
Solve linear equations simultaneously and solve problems resulting in pairs of linear equations.

MATH 152 804-152 1 Credit

Estimate answers and use own mini-calculator efficiently in evaluating formulas and solving problems.
Use dimensional analysis to analyze and solve applied problems.
Use the metric system for measurement and make approximate and exact conversions between the metric and English system.

DESIGN PROBLEMS 606-125 4 Credits

Define and describe the basic characteristics of materials and processes as related to mechanical design.
Define and describe the basic characteristics of statics, strength of materials, elements of machine design, and physics as related to mechanical design.
Define and describe the use of computers in an analytical, practical fashion in the design and redesign of mechanical components and systems.
Perform analytical, mechanical design calculations in a neat, orderly and legible fashion.
Apply knowledge and skills from drafting, descriptive geometry and mechanisms in graphical solutions of design problems.
Make sketches, layouts, and detail drawings to current standards in the design of mechanical components and systems.
Make a project manufacturing feasibility study with estimated costs and revise design as necessary.
Demonstrate human relations skills necessary to function as an effective part of a design team.
Exercise good economic and aesthetic judgment in mechanical design.
Make a complete assembly drawing and bill of materials of a design project from a sketch layout and details.
Depict on a drawing rolling element bearings and method of lubrication.
Depict on a drawing journal bearings and method of lubrication.

STRENGTH OF MATERIALS 606-131 3 Credits

Calculate simple stresses in members under various loading conditions.
Apply the physical properties of materials in solving for stresses, allowable, and actual loads, etc.
Analyze and design riveted, bolted and welded joints and thin walled pressure vessel.
Construct load, shear and moment diagrams.
Analyze and design beams.
Analyze and design members subjected to torsional loads and stresses.
Analyze and design members under combined stress conditions.
Analyze and design columns.

STATICS 606-151 3 Credits

Solve problems involving resultant and equilibrant of force systems.
Calculate moment of force systems.
Analyze nonconcurrent - coplanar force systems.
Analyze trusses.
Analyze concurrent non-coplanar force systems.
Define and understand fundamental terms of statics.
Analyze kinetic friction system.

MATH 153 804-153 2 Credits

Solve applied problems relating to geometric figures.
Define the trigonometric functions and use them to solve right triangle problems and related applied problems.
Use the sine and cosine law formulas to solve oblique triangle problems and related applied problems.
Solve problems relating angular and linear velocity.
Graph and analyze the six trigonometric functions with respect to amplitude, frequency, period and phase shift.

MATH 161 804-161 2 Credits

Simplify algebraic expressions containing exponents and radicals.
Use the quadratic formula to solve quadratic equations and applied problems resulting in quadratic equations.
Graph the quadratic equation $Y = aX^2 + bX + c$ and solve maximum and minimum problems such as maximum power, minimum cost, etc.
Solve quadratic equations simultaneously and solve applied problems resulting in these equations.
Using a calculator, solve equations for approximate root values to a given degree of accuracy.

MATH 172 804-172 2 Credits

Use a mini-calculator efficiently in evaluating formulas and solving problems.
Draw a flow chart and write a program in BASIC to do a repetitious problem or evaluation.
Write the equation of a straight line given specific information and use the analytics of the straight line in applied problems.
Apply the mathematical process of linear programming for efficient and economical decision making.
Determine the probability of events and analyze statistical data.

PHYSICS I 806-121 3 Credits

Solve problems involving the metric and English systems of measurement using proper lab procedure.
Solve problems involving vectors using proper lab procedures.
Solve problems involving statics using proper lab procedure.
Solve problems involving straight line motion using proper lab procedure.
Solve problems involving Newton's Laws of Motion using proper lab procedure.
Solve problems involving work, energy, and power using proper lab procedure.
Solve problems involving simple machines using proper lab procedure.
Solve problems involving impulse and momentum using proper lab procedure.
Solve problems involving rotational motion and dynamics of rotation using proper lab procedure.
Solve problems involving properties of materials using proper lab procedures.
Solve problems involving vibrations using proper lab procedures.

ECONOMICS 809-111 3 Credits

Analyze scarcity as a basis of economic decision-making.
Evaluate the foundations of economic growth of people, businesses and countries.
Analyze the market place: demand, supply, sales and prices.
Trace the circular flow of goods and money and show its relationship to economic performance.
Define the roles and functions of money, banks and the banking system.
Analyze the effects of monetary policy on economic activities.
Analyze the effects of governmental fiscal policies on economic activities.
Evaluate the causes of inflation, the effects of inflation on the economy and the effects of anti-inflation policies.
Apply economic principles to current economic issues.

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PSYCHOLOGY OF HUMAN RELATIONS 809-151 3 Credits

Define psychology and discuss its major goals and contributions.
Describe Maslow's Theory of motivation and self-actualization.
Describe learning and explain ways of enhancing creativity.
Summarize the role played by heredity and environment in human behavior.
Discuss the major developmental tasks of childhood, adolescence and adulthood.
Describe the relationship between conflict and stress and identify typical reactions to stress.
Define personality and discuss the function of personality theories.
Discuss the types and causes of mental illness in America.
Summarize the factors which contribute to good mental health.

AMERICAN INSTITUTIONS 809-153 3 Credits

Describe how the social institutions relate to each other in a supportive way.
Appraise the functions (past, present and future) of the social institutions (family, education, religion, government and economics).
Describe how the social institutions effect the roles one plays in life.
Analyze the alienating effect of changing social values and conflicts of beliefs vs. practices of formal institutional structures.
Describe how urbanization has changed the structure and functions of rural institutions.
Explain how the pivotal social institutions are changing.
Analyze the origin and use of power and dominance in American society.
Analyze the relationship between work, leisure and sports.
Appraise changes in the social institutions today and their effects on future lifestyles and occupations.